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ORIGINAL ARTICLES.

SOME UNUSUAL CASES OF INFECTIOUS DISEASES —A CLINICAL REPORT.

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Case I.—George D., American, aged four years. December 19, 1899, I found the boy with a sore throat that had come on about midnight of the 18th. His pulse was 80, of good quality and rhythm; temperature, 100° F. His pharynx was red; he was not hoarse; he had slight rhinitis. I make a practice of taking a culture from every sore throat and did so in this case as a routine matter. I was surprised at the report, received on the morning of the 20th, of pure culture of the Klebs-Loeffler bacillus being found. I immediately gave him 2000 units of antitoxin, although there was no exudate visible and the constitutional disturbance was no greater than the day before. Twelve hours after the administration of the antitoxin he discharged two large pieces of membrane from his nose. Twenty-four hours later he appeared better, but thirty-six hours later—that is, on the morning of the 22d—both tonsils and the posterior wall of the pharynx were covered with membranous exudate and there was a rise of temperature to 101.5° F., and of pulse to 120. The child was given 1000 units more of antitoxin and Loeffler's solution applied to the exudate. In thirty-six hours the exudate had almost entirely disappeared, and in forty-eight hours the throat was clear, the temperature normal, the pulse 80 and of good quality. The diphtheria bacillus had disappeared by December 30th, eleven days after the onset.

Case II.—C. W., English by birth, female, trained nurse, was first seen by me March 14, 1900, complained of cough and a little sore throat. Temperature was 103° F., pulse 100. There was some hoarseness and she complained of a feeling of soreness under the sternum. The physical signs of general bronchitis were present. The pharynx was a little red and as a matter of precaution I took a culture. The report was pure culture of Klebs-Loeffler bacillus. She was given 2000 units of antitoxin on March 15th. Twenty-four hours later a slight exudate appeared on the left tonsil. The temperature remained high and the pulse frequent and she had the appearance of profound toxemia. The respirations also began to increase in frequency and the hoarseness was more marked. Headache was violent and restlessness and sleeplessness were present. Under the circumstances, fearing that the bronchitis was diphtheritic in character, I gave her 2500 units more on March 17th, and applied Loeffler's solution to the throat.

After this there was slight improvement in her general condition for about twelve hours and then she became decidedly worse as far as her general symptoms were concerned, the throat improving in its appearance, although the slight exudate still persisted on the tonsil. She was given 2000 units more on March 18th. Thus in eighty hours she had received altogether 6,500 units of antitoxin. Twenty-four hours later her throat was clear of exudate, but her general symptoms persisted and physical examination of the chest revealed the general bronchitis still present and a decided consolidation of the lower lobe of the right lung. At the same time she began to expectorate more freely, the sputum having in a mild degree the physical characteristic of pneumonic sputum, but not quite as tenacious and more blood-streaked than rusty. Nevertheless, examination showed it to be swarming with the pneumococcus in pure culture. Nine days after her admittance to the hospital culture from her throat showed the disappearance of the diphtheria bacillus. On the afternoon of March 23d, the tenth day of illness, her temperature, which had ranged between 101° and 103° F., began to fall, reaching 99.8° F. at 10 a.m., but in the afternoon it rose again to 101.3° F., and remained between that point and 100° F. for twenty-four hours. At 10 p.m., March 25th, she vomited. From midnight her temperature began to rise steadily, so that by 6 p.m. of the 26th it was 103° F., pulse 120, and respiration 38. At the same time she complained of intense headache and there was pronounced twitching of the muscles in her sleep. On the 27th her temperature ranged between 100° and 102.5° F., and she began to cough severely and complained of some pain in limbs. On the 28th, being the fifteenth day of disease, her temperature, pulse and respiration rose steadily, reaching 104° F., 130 and 40 respectively. At the same time she complained of great pain and soreness of limbs and chest, pain on motion of joints, and broke out in a profuse, red, macular rash over her body and limbs, but not on face. After reaching 104° F. at 10 p.m., March 28th, her temperature, together with her pulse and respiration, began to fall and continued to do so, accompanied by profuse sweating, through the 29th and 30th, reaching 98° F., 84 and 24 respectively at 6 a.m. of the 31st.

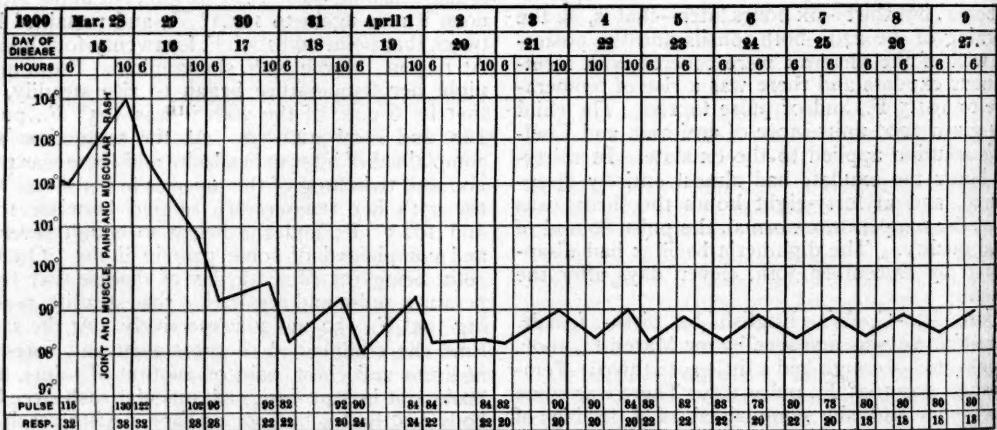
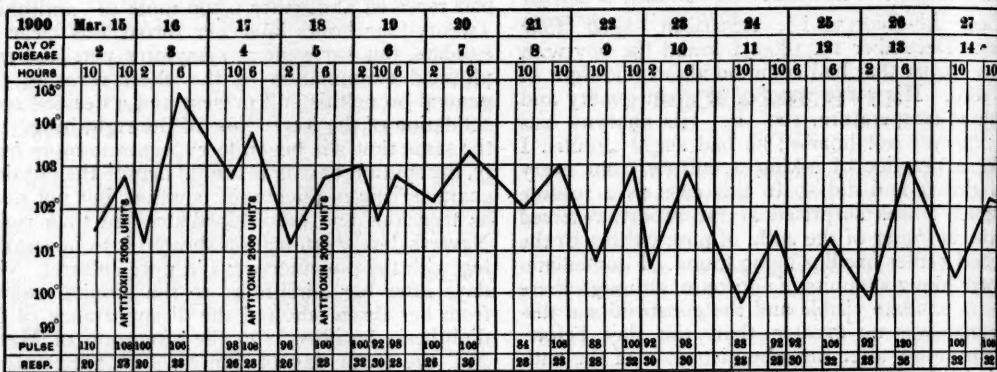
From that time on her convalescence was rapid and uninterrupted and she was discharged from the hospital April 9th, twenty-eight days after she was taken ill.

These two cases are interesting as showing the value of making cultures from all cases of sore throat. In this way, in each case I was able to make a positive diagnosis fully twenty-four or forty-eight hours earlier than could otherwise have been done. They also illustrate the value of large

doses of antitoxin given early, together with the local application of Loeffler's solution, in causing the early disappearance of the organism from the throat.

The second case illustrates the importance of the use of all methods of diagnosis and the possibility of synchronous infection by two virulent micro-organisms. If it had not been for the examination of the sputum we might have been justified in considering the bronchitis and the pneumonia as diphtheritic in origin and might have continued giving even larger doses of antitoxin.

Case III.—November 8th, 1899, I was called to see J. L., aged eight years. The little boy had come home from school, complained of feeling sick, had vomited, and when I saw him was complaining of headache. His temperature was 102.5° F., his pulse 120, respiration 28. I immediately asked his mother whether there was any scarlet fever in the neighborhood. She said no. On examining him further I found a marked bronchitis with a few patches of pneumonic involvement at the base of both lungs. I gave the boy calomel, cupped his chest and ordered hot mustard foot-



Temperature, Chart in Case II.

The urine remained normal, except for slight diminution in amount of chlorides, thus showing the possibility of an individual suffering from two violent infections without the production of albuminuria.

The joint and muscle pains, the high rise in temperature, pulse and respiration of the last two days before the crisis, and the appearance of the rash, I think, were probably due to the antitoxin—the real crisis having started in three days before.

The three following cases of *scarlatina sine croupione* are interesting:

baths every two hours. The next morning the nurse called my attention to the fact that during the footbaths he became very red, but when I saw him there was no rash on his body, and his tongue and throat showed no evidences of scarlet fever. In five days he was feeling very well and in eight days I had discharged him.

Cases IV and V.—On November 18th I was called to see his two little sisters, both of whom were fretting and a little feverish, with a temperature of 99.5° and 100° F. respectively. Their throats were not sore, but there was a little peculiar mottling of the skin, and they both had vom-

ited. The following day I was out of town and Dr. I. M. Snow went to see them in my absence and said that he thought they might both be mild cases of rötheln. In none of the three cases was there any albuminuria. Eighteen days after the little boy was taken sick he was so well that I vaccinated both him and his brother. When I had finished with him, however, I noticed that his fingers were desquamating a little, and I said to his mother, "I wonder whether we have had some mild cases of scarlet fever here." This doubt was settled by the oldest boy coming down in a few days with a typical case.

The following is the most remarkable case that I have to report:

Case VI.—J. Q., male, aged five years, entered the Buffalo General Hospital December 17, 1899, with the history of exposure to a case of scarlet fever during the stage of desquamation the week previous. The day before entering he suffered from nausea and vomiting, followed by fever and a slight punctate rash. His case was diagnosed as scarlet fever by Dr. George Himmelsbach, a physician of large experience in both hospital and private practice, and he was sent by him to the hospital. During the time that he was there under my observation the rash persisted eight days, his tongue was red and showed the papillæ prominently, his throat was slightly sore, his tonsils were swollen, but showed no exudate; the cervical glands and neighboring connective tissue of neck were swollen. He had a faint trace of albumin in urine, but no casts.

December 25th he began to desquamate and this continued until January 10, 1900. About January 6th another case of scarlet fever of very severe type, with an eruption almost vesicular in character, was placed in the same room with the convalescent. On January 12th I ordered that the first boy have his disinfectant bath and be discharged the next day, but when I made my visit on January 13th I found that he had a sore throat and that his temperature had risen to 101.8° F. The following day his temperature had risen to 104° F., and he was covered with a bright, coarse rash, vesicular and punctate in character, his tongue was coated, but the edges were decidedly red and the tip showing the elevated papillæ. He had headache and slight delirium. On January 16th he developed an acute nephritis of marked degree. In fact, he went through a second attack of scarlet fever of a severe type, desquamating freely. He was discharged from the hospital February 15, 1900. During the primary attack he was seen by Dr. Himmelsbach, who sent him into the hospital, by Dr. McCarthy, who was the interne in charge of the contagious wards, and by me. There was no doubt as to the correctness of the diagnosis. During the second attack he was seen by the three who had seen him in the first attack and by Drs. Stockton and Wende. There was again no doubt as to the correctness of the diagnosis. So far as I know, this case is unique in the fact of its recurrence only three days after the completion of the desquamation of the first attack.

REMARKS UPON THE CONSTRUCTION OF AMPUTATION-STUMPS, WITH A REPORT OF TWO CASES OF AMPUTATION BY THE OSTEOPLASTIC METHOD OF BIER.¹

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THE ablation of an extremity for irremediable injury or incurable disease is so self-apparent that, without going too far back into the history of surgery, it may be safely assumed that it is one of the oldest operations recorded. The obvious simplicity of the procedure would lead us to believe that, with advancing centuries, its operative technic should have been perfected to such a degree that but very little of value could be added to this time-honored chapter of surgery. And yet a scrutinizing investigation of the subject will readily demonstrate the fact that our technic, especially when viewed in its final results, is anything but perfect. Everybody who has had occasion to follow up closely the ultimate fate of amputation stumps will agree with me that there still remains considerable to be desired. The proof of this is evident, in that most surgical text books very properly devote at least one, if not many, chapters to the discussion of the diseases of amputation-stumps and their treatment.

Critically examined, every amputation-stump should respond to the following requirements: (1) It must be able to support the weight of the body. (2) It must be painless. (3) It must be no more liable to local disease than any other portion of the body. (4) It must disfigure its owner as little as is commensurate with the nature of the ailment. It is needless to add that the first requirement does not pertain to stumps of the upper extremity.

It is far from me to deny the existence of stumps which respond to all the requirements mentioned; on the contrary, there are many quite well known, but if these are carefully examined it will be very readily seen that they are either typical exarticulations or that they belong to either the Pirogoff, or Gritti, or Sabanjeff type—in other words, in proximity to a joint, a kind of modified exarticulation, while amputations through the diaphysis will not stand the test.² Nor can it be denied that there are quite a number of people who can walk very well even after an amputation through the diaphysis; but in the greatest majority of these cases thanks is due not so much to the skill of the amputating surgeon, but more to the exceptional skilfulness of the manufacturers of artificial prostheses. In spite of this fact, it does not follow that surgery is absolved from all further attempts at improving the operative technic to

¹Read before the Surgical Section of the New York Academy of Medicine, Nov. 12, 1900.

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²Of late Hirach has published in the *Archiv für klinische Chirurgie*, Band LXI, Heft 3, excellent results obtained by long-continued after-treatment with massage, and active and passive motions; this method is certainly very much in place, when for some reason or other we are compelled to amputate by the older methods.

such a degree that all stumps should be in a condition to fulfil the imposed requirements. That ability to wear a skilfully-manufactured artificial leg is alone not a desideratum will be conceded to if the following points are taken into consideration. Artificial legs, as a rule, are compelled to take their support from some point, or points, higher up; in the leg from the head of the tibia and fibula, and in the thigh from the *os innominatum*, while the stump proper merely hangs loose in a voluminous socket and in reality is used merely



Fig. 1.—Case of Alex. T., osteoplastic amputation of leg.

for propelling the artificial leg and not at all for the support of the body. Another point, while apparently a subordinate one from the surgeon's standpoint, is nevertheless a most important one from the patient's point of view, and this is the perhaps exorbitant cost of a well-made artificial leg. The natural outcome is that we see many of the poorer classes who, because of a stump which cannot give them direct support, or the inability to pay for an artificial leg, are compelled to hobble around on crutches, while if the stump were

properly made, these people would with a comparatively cheap "peg leg" become useful to themselves and to the community.

Among those surgeons who readily appreciate the importance which a good supporting stump is to its owner there arose the natural consequence that more of an extremity was sacrificed than was absolutely indicated by the nature of the ailment; this was gained by exarticulations at the joint higher up and also gave rise to the term "amputation at the seat of election," for instance, upon the leg in its upper third. I believe, with the method to be shortly described, the term will become either obsolete, or will be reserved for those cases in which rapidity in the course of the operation, for manifold reasons, is urgently indicated, as it is undeniable that the formation of a stump by Bier's method will even in the most experienced hands consume a somewhat longer time than the simple amputation by the older methods. In a word, every place above the seat of the disease is a place of election by Bier's method.

It would carry me far beyond the limits of this short communication if I were to attempt to describe or even mention the various improvements and course of evolution in the operative technic of amputation; but, if we admit that the usefulness of a stump and its physiological function are the objects to be aimed at, we must also admit that the most important advance in the technic of amputation is to be credited to the ingenuity of Pirogoff, because it gave an impetus to the subsequent development of other methods; these, like the amputation of Gritti, or the more recent ones of Sabanjeff, Abraschanoff and Scymanofsky, are none the less good, but they are applicable only to special regions, as the knee-joint and elbow-joint; while the underlying principle in all of them is merely the one described by Pirogoff. Surgery appeared to have rested on its laurels and apparently accepted the ills supposedly inherent to amputation-stumps, until Bier developed a practically entirely novel method, applicable to any part of the extremities. Credit, however, is to be given to Bier not only for the introduction of this method, but also, and perhaps to a far greater degree, for the careful and deliberative studies and investigation upon the physiology and pathology of stumps in general, by which he has proven the fallacy of many hitherto faithfully accepted theories regarding amputation-stumps and has paved the way for a long series of modifications and improvements.

The theories hitherto accepted regarding the requirements, the presence of which is absolutely indicated in a stump designed with a view of perfect function, have been manifold, and, although it is undeniable that from a cosmetic point these stumps leave nothing to be desired, their usefulness was so meager that a revision and modification of these theories were not only in place, but were very much indicated. Bier and his collaborators have undertaken this work and, after a careful study and investigation of this subject, extending over ten years, have ably refuted the vari-

ous theories and left them without any scientific foundation.

1. For a while the volume and thickness of the stump were supposed to be the deciding factors, because it was found that stumps following amputations through the comparatively broader surfaces of the joint ends could stand the superposed pressure better than stumps through the diaphysis; but Bier has proven that this theory is not tenable. He has published cases in which the stumps were perfect in every respect, yet they were no broader than the diaphysis through which they were made, with the only difference that he has closed the medullary cavity by a small osteoplastic flap. On the other hand, everybody has seen stumps with broad bone surfaces (epiphyseal), which were unable to properly functionate, because a thin lamella of the articular surface was sawn off at the time of the operation.

2. A faulty interpretation of the stumps following amputations by the Pirogoff or Gritti method led to the adduction of the hypothesis that stumps gave a good functioning result only when covered by skin which is designed by Nature for exposure and pressure. In reality, we find this to be the case in Pirogoff's amputation, in which the skin covering the stump is taken from the thick skin of the heel, and in the Gritti amputation, in which the flap is formed out of the tough skin covering the patella and tuberosities of the tibia. But that this alone is not the deciding element in the good results of these methods is effectually proven by Bier, who had occasion to observe perfect function in stumps covered by other skin. In one of his cases an excellent stump was obtained, in spite of the fact that the skin flap was formed out of the very tender skin covering the tendo-Achillis. Bier has also shown that even the most tender skin becomes hypertrophied, so as to resemble the skin of the planta pedis, if exposed to use.

3. There are many other theories, too numerous to enlarge upon and all disproven. Of all accepted rules, about the only one to which Bier allows some importance is that the resulting scar must not lie directly over the exposed surface of the stump, although even this is not of sufficient importance to induce him to sacrifice an additional portion of the limb to obtain this result.

It is not at all easy to overthrow rules which have obtained a firm foothold, but it is a far more difficult task to replace them by a more perfect substitute. After a long series of experiments and, for that matter, also failures, Bier has solved this task in admirable fashion by his osteoplastic amputation method to be shortly described. No one who has had the opportunity to compare the two methods will deny the superiority of it. There remained only the proper interpretation of the excellent results obtained. The careful observation

of his results has led Bier to lay down the following rule: *The perfect functioning of the stump depends almost exclusively upon the bone. The bone must not expose on its supporting surface a wound. It is therefore necessary to occlude the sawn surface with a periosteal bone flap. When this is impossible, it may be more proper to exarticulate.*

In the preceding special stress was laid upon the good functional ability of the stump, and one may naturally ask how far the necessity arises for similar more or less complicated methods in amputations upon the upper extremity, or upon the



Fig. 2.—Case of Wm. K., osteoplastic amputation of thumb.

toes and fingers. This question in the opinion of the writer should be replied to emphatically in the *affirmative*. While the physiology of stumps of the upper extremity is of but minor importance, their pathology is fully as important as that of stumps of the lower extremity. Conical stumps, ulcerations, painful neuroses, etc., are just as common in stumps of the upper extremity and of the digits, and if these can be avoided by attention to details it is our duty to give the benefit of it to the patient.

Technic.—The evolution of this method is not only interesting, but also very important, as it demonstrates in successive phases the primary fail-

ures and difficulties, and only after overcoming these did it reach its present stage of, one might say, ultimate perfection. As the first attempts, which were based on a misconstrued conception, have been practically discarded, I do not intend to burden you with their detailed description; those who are interested in the subject will find them described in the earlier publications of Bier.¹ Instead I shall content myself by describing, in as few words as possible, the successive steps of the operation, as given by Bier in his latest monograph on the subject.²

As amputation of the leg, in view of its greatest requirement regarding functional ability, is the most important one, and possibly also the most frequent one, I shall confine myself solely to its description. Taking its technic for a prototype, all the other amputations being merely slight modifications, which can be readily adapted to the special limbs to be amputated.

1. A large anterior flap, with its corners rounded, is formed, its base occupying somewhat more than half of the circumference of the leg. While the flap is being prepared, an assistant draws it upward with sharp retractors; this manipulation renders tense the cellular tissue between the skin and the periosteum on the anterior surface of the tibia, which can then be readily divided by slight strokes of the scalpel. With a little care in this manipulation all injury to the skin or the underlying important periosteum can be easily avoided. Although this single large anterior flap is to be preferred, if the nature of the ailment for which the amputation is done permits it, a strict adherence to it is not necessary, and under no circumstance is it justifiable to sacrifice length of the stump to obtain it. One long posterior flap, or one short posterior flap and a somewhat longer anterior flap, will give practically as good results. In a word, any flap formation is applicable, but some care should be taken that the resulting cicatrix shall not lie directly over the stump.

2. The next step is the formation of the osteoplastic flap. To all intents and purposes, it is only in the insertion of this step wherein Bier's method of amputation differs from the other methods, hence considerable weight is to be attached to its execution. The osteoplastic flap is formed by circumcising the periosteum of the anterior surface of the tibia on three sides of a quadrilateral space, the lateral incisions encroaching slightly beyond the anterior and internal borders of the tibia. The edges of the periosteum are raised for a short distance from the bone and a thin plate of bone is sawn out of and parallel to the anterior surface of the tibia. On reaching the base of the periosteal incision, if the construction of the saw is such as to permit it, the teeth are turned anteriorly and the bone flap is sawn through, almost to the periosteum; if no such saw is at hand, a narrow but strong periosteal elevator is wedged into the

slit and the flap elevated and broken at its base; if the broken edge is too rough, the jagged ends may be carefully chipped off with a rongeur. Finally, in order to give it more mobility, it is advisable to raise the periosteum for a slight distance upward from the tibia. I experienced considerable difficulty in my cases, as well as in an amputation by the Sabanoff method, because I did not have a proper kind of saw; and, finally, had to resort to the Gigli saw. Bier has modified Helferich's bow saw, especially for osteoplastic amputations, but I have been unable to procure it at any of the New York surgical instrument dealers; this modification consists of an alteration in the two locks of the saw in such a manner that the saw can be fitted in, both in a vertical and a nearly horizontal position (the latter toward both sides); it is evident that a saw constructed on this principle would materially overcome some of the difficulties of this part of the operation. Although I was able to obtain a very satisfactory flap with the usual Gigli saw, I found it too unwieldy to enable me to do the more or less delicate work required. Recognizing these imperfections, I have constructed a new saw. It is not of a remarkable nature, as it is only an ordinary metal worker's or jeweler's saw frame, while its blade is a piece of a Gigli saw; although perfectly simple in its construction, I have no doubt it will be of considerable value in the sawing-out of the osteoplastic flap, as it enables the operator to use it in any direction that may be called for, and this without being compelled to change it. As yet I have had no occasion to try it, but I purpose to do so at my next amputation.¹

3. The next step is the ablation of the leg, and the method of doing it depends upon the length of the anterior flap. Presuming it is sufficiently long to amply cover the stump, the ends of the incision are merely united by an incision on the posterior aspect of the leg. After division of the muscles of the calf and of the interosseous membrane, the osteoplastic flap being held upward, some care being taken not to injure it by rough handling, the tibia and fibula are sawn across at the level of the base of the osteoplastic flap. If the osteoplastic flap is sufficiently large to cover the ends of both bones, these are sawn across at the same height; if, however, it is long enough to cover the tibia only, it is best to divide the fibula at a slightly higher level, so as to practically exclude it from the stump formation; otherwise the fibular portion of the stump may become the seat of pathological disturbances.

4. Ligation of the bleeding vessels.

5. The osteoplastic flap is now turned over the divided surfaces of the bones, and its periosteal fringe is sutured to the periosteum of the tibia and fibula, or to fasciæ and tendons, in its proximity.

¹Since writing this article I have had occasion to amputate another leg by this method, and tried to use this saw; very quickly, however, it was apparent to me that in its present state the instrument was altogether too crude in its construction, the objection being that the locks did not grip the saw with sufficient firmness to prevent it from slipping out. I am confident that with a slight modification in the mechanism this objection can be overcome very readily, and I am now at work in improving it.

²Archiv für klinische Chirurgie, Band XLVI., p. 90; Archiv für klinische Chirurgie, Band L., p. 356.

³August Bier. Sammlung klinischer Vorträge, Test 264.

6. Suturing of the skin.

While primary union is naturally the ideal mode of healing to be aimed at, it does not necessarily follow that its absence is bound to mar the ultimate result. If working in more or less infected areas, it is quite permissible to make use of the various methods of secondary suture without endangering the flap. I operated on my second patient in this manner, and yet the result is very good.

My experience with this method of amputation is limited to the two cases described in brief as follows:

Case I.—Alex T., sixteen years of age, a druggist's apprentice, was operated upon at Mount Sinai Hospital in 1898 for tuberclosis of the ankle-joint, and was discharged with a sinus on either side of the joint. Patient was readmitted to the hospital January 11, 1900, on which date examination revealed the following local condition: Above the internal malleolus a sinus one and three-quarter inches in depth leading into the joint; a similar sinus over the external malleolus; intense pain and tenderness over the entire joint, the lower third of the tibia and in the tendo-Achillis; considerable swelling and thickening of these structures. He was treated at first with iodoform-oil injections and immobilization. As there was no improvement I resected the tibiotarsal joint on January 18th, removing apparently all of the diseased area. Subsequent to this operation, as well as prior to his admission to the hospital, the patient was also treated by venous hyperemia (Bier). On March 12th the joint was again examined and more tuberculous tissue removed. From time to time there appeared albumin in the urine, the liver became enlarged, and it was apparent that the patient was developing amyloid degeneration. To obviate this, I was compelled to abandon conservative treatment, and therefore on May 18th I amputated the leg by Bier's method. Patient was discharged June 10th with a slight sinus (caused by the drainage tube) which closed within a few days. The stump is now ideal in every respect; not only is there no pain, but not even the slightest tenderness; and the patient can press firmly against the stump and walk on it on the bare floor without causing him the slightest amount of pain.

The skiagraph of the stump (Fig. 1) taken eighteen days after amputation is very interesting; there is perfect union between the osteoplastic flap and the tibia, but there is no union between the fibula and the osteoplastic flap. Unquestionably it would be better if there were firm bony union here also, but its failure to unite is no drawback as far as function is concerned. Bier published a case in which there was no bony union of either bone, and yet the functional result was perfect.

The second case is unique perhaps inasmuch as, so far as I know, it is the first case of an osteoplastic amputation of the thumb.

Case II.—Wm. K., twenty-five years of age, a butler by occupation, injured with an icepick the

dorsal aspect of the interphalangeal joint of the thumb; this was soon followed by suppuration of the joint, for the relief of which an incision was made on the dorsum of the joint; the process, however, continued to grow worse and he was admitted to the hospital August 14th. Immediately on admission, through-and-through drainage of the joint was established, but the joint surfaces and capsule were found to be entirely disorganized. These conditions alone called for amputation, which I performed August 25th by Bier's method. A proper saw was not at hand, hence in the course of the manipulation the osteoplastic flap was denuded of a considerable portion of its periosteum; in spite of this I sutured it to the sawn surface of the phalanx. Secondary sutures were inserted on account of the suppuration and tied three days later. Patient was discharged September 2d with a minute granulating surface. It was some time, however, before the wound closed definitely; a slight sinus persisted, at the bottom of which bare bone was felt for a considerable time, so that on many occasions I despaired of the ultimate result and feared that I would be compelled to remove the bone flap. I was agreeably disappointed when finally firm union took place, without the separation of a sequestrum. The stump, although quite thin in its terminal portion, is now perfect in every respect and leaves nothing to be desired.

The skiagraph (Fig. 2) taken six days after the operation shows distinctly the deep shadow of the osteoplastic flap.¹

It is hardly proper to draw definite conclusions from the two cases reported, but in view of the undeniably poor functional results by the older methods, Bier's method appeals me to such a degree that I have deemed them worthy of publication. While I do not wish to be premature in my statements, it may be said with certainty that this method of amputation is the operation *par excellence* in all cases, with the exception perhaps of diabetic and senile gangrene.

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PARASITES IN THE BLOOD.

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OF the true parasites which are found in the general systemic circulation, there are two of great importance. First the *filaria sanguinis hominis*, causing the disease which we know under the term filariasis. For some time it was believed that this parasite could be found in the blood of an infected person only at night. But it has now been established that there are three varieties of the parasite—the one first described as occurring in the general circulation only at night and hence

¹Thanks to the courtesy of Dr. A. G. Gerster, I had occasion ten days ago to amputate a leg by this method, for a rapidly growing sarcoma of the great toe. On account of the advanced age of the patient and consequent atherosclerosis, there was considerable marginal necrosis of the flaps. I do not know as yet what the ultimate result of the case will be. Its consideration must, therefore, be postponed for the present.

known as the *filaria nocturna*; another found only during the day, *filaria diurna*, and another variety found at any time, day or night, *filaria persans*.

An interesting anatomical peculiarity has just been observed by Dr. James Ewing of this city, in the examination of the blood of a case of filariasis. The peculiar structure noted is a transverse striated appearance, giving much the appearance one sees in an earthworm. This was very beautifully illustrated in a photograph exhibited by Dr. Ewing and Dr. Buxton at the New York Pathological Society meeting October 10th, 1900. Another interesting point in regard to the filaria is the establishment of the transmission by means of the mosquito.

The second parasite we shall consider is the *plasmodium malariae*. Of this there has likewise been determined three varieties, producing, as you know, the three ordinary types of malaria; the tertian, the quartan and the estivo-autumnal, the latter also known as the irregular form and also as the tropical form. What we formerly called quotidian fever does not have the honor of a separate variety of organisms, but is due, we now know, to a double infection with tertian organisms, the two sets overlapping and maturing on alternate days. In the light of the mode of infection which we now know to be true of malaria—infestation by mosquitoes—it is easy to understand how this double infection occurs.

As far back as 1850 Virchow saw the malarial parasite. Laveran and Golgi established the correspondence between its life cycle and the clinical cycle of the disease. That is to say, at the end of the apyretic stage of the cycle the parasite has arrived at maturity, and that in the shivering stage the parasite has reached the sporulating stage. During the succeeding hot and sweating stage the spores enter the red blood-cells and the fever comes to an end. This in tertian malaria takes forty-eight hours; in quartan, seventy-two hours. In the tropical form the time of the chill likewise corresponds with the sporulating stage of the estivo-autumnal parasite.

Now, this explains how the parasite maintains its existence in the human body, but does not show how it passes from person to person. Nor does it explain the presence of crescents and of flagellate bodies found in the blood. The presence of these latter bodies have been a puzzle for several years. The relation between these two bodies has been very close, crescents if watched having been seen to have given off flagellæ.

For years it has been suspected that mosquitoes had something to do with malaria, and, strange to relate, even savages in German East Africa, who lived in mountainous, and, therefore, non-malarial districts, noticed that when they went to the sea coast they acquired a fever. They said they were bitten by certain insects—mosquitoes—which they called *Mbu*. They gave the same name "*Mbu*" to the fever which they acquired, thus linking a cause and effect. Peasants in certain parts of Italy believe that the bite of the mosquito may be followed by malarial fever.

Drs. Manson and Ross, of England, working on this theory, were able to demonstrate in the stomach of mosquitoes which had bitten malarial patients flagellæ and spherical bodies. On watching these parasites in the mosquito's stomach, Ross found that they grew from six micromillimeters in diameter to 60 micromillimeters and that they retained the black pigment. And he also found after a large number of dissections from mosquitoes that this change took place only in one variety. Probably it is because the malarial parasite does not continue its development in the bodies of all kinds of mosquitoes that so much difficulty has been met with in establishing the truth of the theory.

It has been found that the parasite, after developing in the stomach of the mosquito, breaks up into small bodies which pass to the salivary glands and thus into the proboscis of the mosquito. The mosquito thus acts not only as the definite host of the malarial parasite, but also as the transmitting agent.

It is not necessary at this time to go into a discussion of the close relationship that people living in malarial districts have often observed between the prevalence of mosquitoes and the prevalence of malaria; that warmth and moisture and low moist places both conduce to malaria and to the breeding of mosquitoes; that protection of the body from mosquitoes by veils, wraps, screens and netting, also protects from malaria; that people going into malarial districts were always warned not to be out after sunset—the time when mosquitoes are particularly active; that the cultivation of the soil both prevents the breeding of mosquitoes in stagnant pools and the prevention of malaria; that wherever we find malaria we find mosquitoes. The converse does not hold true, but this is easily explained by the fact that so far it has only been ascertained that one variety of mosquito is capable of transmitting the disease. Hence we know why, for instance, northern regions are non-malarial, although explorers have found swarms of mosquitoes there.

The two celebrated yet simple experiments of Dr. Manson of London, which have now just been completed, leave no longer any ground for the most skeptical individual to stand upon.

Experiment No. 1 was as follows: From Rome he had mosquitoes which had bitten a patient suffering from tertian malarial fever, as demonstrated by a careful examination of the blood, sent to London where they were then allowed to bite a previously perfectly healthy individual—Dr. Manson's son. Here are the words of the patient: "I am twenty-three years of age. I was born in China, but have lived in this country since I was three years old and have never been abroad since, nor in any district in this country reputed to be malarial. I am healthy." Between August 29th and September 12th the young man was bitten many times by the mosquitoes thus obtained. On September 13th he began to feel languid and out of sorts and his temperature rose to 99° F. At mid-day he felt chilly and inclined to yawn.

At 4:30 p. m. he went to bed with severe headache, pain in the back and bones, and a temperature of 101.4° F. On the following day temperature was 100° to 102° F. Patient had anorexia and an exaggeration of symptoms of the day before. September 15th he awoke feeling better, but at 2 p. m. felt chilly and at 4:30 his temperature was 103.6° F. At 9 p. m. diffuse sweating set in. September 16th temperature became normal. September 17th, temperature was 99° F. in the morning, but at 2 p. m. he had a chill and at 5 p. m. the temperature was 103° F. followed by sweating, and at 9 o'clock the temperature had fallen to 99.2° F.

Examination of the blood showed many tertian parasites. The edge of the spleen could be felt on deep inspiration, and there was a slight feeling of discomfort in this region. He was then given ten grains of quinine and the following day ten grains more and five grains every eight hours. No more parasites were found after 5 p. m. of this day. September 19th, temperature normal and appetite had returned. September 25th in good health, no recurrence of malarial symptoms.

Experiment No. 2 was as follows: A wooden hut constructed in England was shipped to the heart of the malarial district of Italy, where the permanent inhabitants all suffer from malarial cachexia and where the laborers who come from healthy parts of Italy for harvesting purposes all contract fever. The only precaution taken by the experimenters who lived in the wooden hut was to have the windows and doors most carefully screened and their beds protected by mosquito netting. During the day they went about as others, but were always careful to be indoors from sunset to sunrise. From early in July until September 21st, they have enjoyed perfect health, while their neighbors in marked contrast were all either ill with fever or had suffered with severe malarial attacks.

You will be interested now in knowing the distinguishing characteristics of the mosquito which carries the infection. It is of the variety known as *Anopheles* and differs from the more common variety of mosquito known as *Culex*, by the following peculiarity. Its palpi are about as long as its proboscis, while in the *Culex* the palpi are very short. In the resting stage the *Anopheles* projects at right angles from the surface while the *Culex* holds its body parallel to the surface. Another distinguishing point is that the *Anopheles* holds its beak and body in one line while the *Culex* holds its beak and body at angles with each other, thus giving a humpbacked appearance. The larva can be distinguished in the pools of water by the fact that the body of the *Anopheles* larva is parallel with the surface of the water, while that of the *Culex* hangs with the head downward.

Too much credit cannot be given to the work of Dr. Manson in proving his theory, and it only remains to destroy as far as possible the breeding of the *Anopheles* mosquito to render malarial districts habitable.

GENERAL REMARKS ON THE COMBINATION OF ETHER (57 PARTS) AND CHLOROFORM (43 PARTS), KNOWN AS THE M. S. MIXTURE.

BY EDWARD ADAMS, M.D.,

OF NEW YORK;

MEMBER OF THE GERMAN HOSPITAL HOUSE STAFF.

THIS article is based upon three hundred narcotics induced by the author and deals chiefly with the practical personal observations made by him. Little claim to originality is made, for most of these observations have been made before, and it is intended to relate the experience of a hospital interne as briefly as possible.

The following subdivision of the subject seems most practical: (1) Preparation of the narcotizer. (2) Preparation of the patient for anesthesia in narcotizing-room. (3) Choice of anesthetic. (4) Stages of anesthesia. (5) Conditions influencing anesthesia, such as (a) heart-action, (b) respiration, (c) vomiting, (d) position of patient, (e) accidents during anesthesia (f) concluding remarks, under which head the after-treatment should be considered and also the emergencies occurring at this time and their methods of treatment.

1. *Preparation of the Narcotizer.*—In operations about the head, face or neck it is well to allow an assistant to give the anesthetic until the operative field is thoroughly scrubbed and prepared for the surgeon. In the meantime the anesthetist should disinfect his hands thoroughly and put on a sterilized gown. A sterilized mask should be prepared and the bottle containing the anesthetic covered with a sterilized towel. Plenty of towels, a mouth-gag in good working order, a pair of tongue forceps, a soft sponge on a long, steel sponge-holder, several hypodermic syringes and solutions of camphor, strychnine, digitalis, spartein, atropine, whiskey, nitroglycerin and amy nitrite should be in readiness.

2. *Preparation of the Patient.*—It is understood that the patient has been properly prepared for anesthesia. Before beginning to administer the anesthetic, false teeth (if the patient wears them) should be removed. Do not leave this to the orderly or nurse; see to it yourself. Examine carefully the patient's heart, as well as the lungs, and look at the eyes to see if there is an artificial one present. If so, have it removed. Previously the urine should have been examined for albumin and casts. All bandages should be loosened. Apply vaseline on the cheeks, chin and nose, and you are then ready to begin the anesthesia. See that the room is quiet, do no more talking than is absolutely necessary, tell the patient that you are going to administer the anesthetic very slowly and then pour a few drops on the mask, at first holding it at some distance away from the face and gradually bringing it closer and closer. Talk to the patient in a low, impressive tone and try, if possible, to gain his confidence, for this will greatly help you in your work.

3. *Choice of Anesthetic.*—As a rule, chloroform is chiefly to be preferred (a) in renal disease, (b) in pulmonary disease, (c) in obstetrical cases, (d)

in children, (e) in old patients, (f) in alcoholics, and (g) in operations about the head. Ether is usually given by preference when extreme prostration exists and in cardiac cases. Personally I know of no contra-indication to the use of M.S., for there have been patients here to whom neither ether nor chloroform alone could be administered, but in whom this combination gave admirable results.

4. *Stages of Anesthesia.*—The stages of stimulation and excitement quickly merge into one another, sensibility being slowly impaired and reflex action continuing. At about this time some of the patients become violent, this being especially marked in alcoholic and very robust patients. To patients giving an alcoholic history I have made it a practice to give 8 minims of Magendie solution at least half an hour before anesthesia, and it is really surprising how quietly they take the anesthetic. At the stage of excitement some patients begin to vomit, and when this is the case it is best not to crowd the anesthetic. Allow them to vomit; in so doing they will partly come out, but afterward they seem to go under more quickly. At this stage the muscles are quite rigid, the face is livid and the pulse and respiration are increased in both frequency and force. As soon as the excitement and struggling have passed the patient goes into the stage of anesthesia in which nearly all the reflexes are abolished except those of the involuntary muscles. As a sign of relaxation I generally rely upon the muscles of the arm in flexion in order to see if any stiffness is present. It has also been my experience that a patient is not thoroughly anesthetized until the muscles of the jaw are completely relaxed. If at this point the anesthetic is still further administered, the patient will go into collapse, this being evidenced by the cyanosis of the finger-nails and later by that of the mucous membranes; respiration will become slow and shallow, the pulse feeble and slow, at times stopping suddenly without warning; the pupils become dilated and do not react to light, and unless prompt measures for resuscitation are taken death ensues.

No one sign can be relied upon as to how deeply the patient is under the anesthetic; the reflexes in connection with the pulse and respiration must be considered together, for I have seen cases in which the patients have been deeply under the influence of the anesthetic and in which the eye reflexes were present and others in which the patients were hardly under although no reflexes were present. If morphine is given before the operation it will cause a contraction of the pupil. If the pupils are dilated do not think that the patient is deeply under, for sometimes the pupils suddenly become dilated when vomiting is about to set in. If you are in doubt as to the condition present the pulse and respiration will act as guides. If the patient is deeply under the pulse will be slow and regular, as a rule, and the respiration somewhat slow and shallow. If the mask is now removed for a few minutes, it will be noticed that the pupils will contract at once, the pulse be-

come stronger, and respiration stimulated. If, however, the pupils are dilated because the patient is not under control, and if in connection with the dilated pupils there is a corresponding increase in rapidity of both pulse and respiration, with spasmodic contraction of the diaphragm and attempts at deglutition, all of which signs predict vomiting, the anesthetic should be crowded. If, however, vomiting is inevitable, the mask should at once be removed, the patient's head turned to one side, and the mouth wiped with a towel. At times it will be necessary to let the patient come entirely out. Of course, such an occurrence is very annoying to the operator, as he cannot proceed until the patient is again under the influence of the anesthetic.

In regard to heart-action and pulse, as a rule, I place a finger on the radial artery before the anesthetic is administered in order to determine the rate, quality and characteristics of the pulse. At this stage the pulse is generally quite rapid, forcible and slightly irregular, as the result of excitement or nervousness. This is the case until the stage of anesthesia is reached, at which time the pulse becomes slower and more steady. If the anesthetic is administered beyond this stage signs of cardiac failure will be evidenced by a weak, rapid, fluttering, irregular pulse. If the patient shows signs of cyanosis, remove the mask for a moment or two. The color will at once reappear and there will be a marked improvement in the character of the pulse. The following conditions will cause an increased pulse-rate: (a) When the patient is about to vomit; (b) during dilatation of the sphincter ani muscle; (c) in operations about the stomach or intestines; (d) after the loss of a large amount of blood; (e) when the patient is recovering from the operation. A decreased pulse-rate is noted under the following conditions: (a) In operations about the face or neck; (b) removal of a large abdominal tumor, as shown by the evacuation of the contents of an ovarian cyst or removal of a large fibroid tumor; (c) in hernia operations from pressure on the spermatic cord or testicle; (d) when the patient is about to go into collapse.

Always place your finger on one of the arteries during the operation in order to watch the pulse. It is a matter of personal preference which vessel is selected. Usually the facial, temporal, carotid or radial is chosen. Personally, I prefer the first-mentioned, although there are times when the pulse cannot be well felt at the facial, but it is very good at either one of the other arteries. From time to time the pulse should be noted at one or other of the vessels, in addition to the one you constantly have under observation. As a rule, the pulse averages about 70 during the operation, but any of the conditions named heretofore may cause it to be as rapid as 150 or as slow as 40 per minute.

As to respiration, when the anesthetic is first administered this may be quite rapid, as most patients are afraid to breathe naturally, thinking that they will go under more rapidly if they do not

do so. According to my observation, this is a mistake. I usually ask the patients to breathe in normal manner. When they are half under the influence of the anesthetic the respirations are short and rapid, and the nearer the approach to the stage of anesthesia the more steady and slow they become. If now the narcosis is still further pushed, the respirations become slower and more shallow and finally cease. Always try if possible to keep the patient's head to one side and keep the lower jaw well forward, this being easily accomplished by placing two fingers beneath the angle of the jaw and throwing it forward. This will prevent the tongue from dropping backward and thus obstructing the air-passage. If the patient does not breathe well, place the mouth-gag in position and draw the tongue forward with the forceps. If there seems to be either mucus or vomitus obstructing the air-passage, use the sponge on the sponge-holder and try to keep the pharynx clear of any foreign bodies. Increased respiratory movements usually show that the patient is coming out, but, then, the respirations may be stimulated reflexly from some manipulation of the peritoneum, intestines, or stomach. When the respirations become slow and shallow, remove the mask and if the patient is not under too deeply the respirations will be at once stimulated. On the other hand artificial respiration may have to be resorted to and Sylvester's method is the one to be preferred. Stertorous breathing can be overcome by removing the mask for a moment or two, but sometimes in very stout people with short necks, and in operations about the face or neck in this class of patients, the snoring and disagreeable respiration will persist throughout the entire anesthesia, no matter what means may be taken to overcome the same. Certain positions also seem to influence the respirations, the most common being the Trendelenburg and nephrotomy positions.

The accidents which may occur during anesthesia are asphyxia and cardiac failure. The former has already been dealt with, but I may add that sometimes a few drops of amyl nitrite will have a stimulating effect. Possibly tracheotomy may have to be resorted to, but this is not often necessary. Cardiac failure usually occurs as a result of too deep an anesthesia. The premonitory symptoms are extreme pallor, sudden wide dilation of the pupils, cessation of respiration, pulse at first very rapid, finally becoming imperceptible. The anesthesia should at once be stopped, the foot of the table raised, and artificial respiration should be performed at once. Hypodermic injections should be freely given and for a rapid stimulant of the pulse I do not believe there is anything better than 20 minimis of a 25-per-cent. solution of camphor ether, as this acts almost instantly. At least two or three of these injections should be given, as well as 10 minimis of a 1-per-cent. solution of strychnine, nitroglycerin, digitalis, whiskey, caffeine, camphor and spartein can also be used. If necessary an intravenous infusion of salt solution may be given. This is used at a temperature of

about 120° F.; from 800 to 1500 c.c. may be given. I do not believe hot rectal injections are of much value for rapid stimulation, but shall dwell upon this subject later.

As soon as the operation is over, the patient should be placed in bed. This should be previously warmed and, if not, hot-water bags should be placed about the legs and thighs. At this time a hot rectal injection is very beneficial. This usually consists of 8 ounces of salt solution and 2 ounces of whiskey, the former given to quench the thirst, the latter for the stimulating effect. If necessary this should be repeated in six hours. If the patient is suffering from shock he should be treated in the manner described heretofore. Magendie solution, in small doses, may be given to relieve pain. In order to prevent aspiration the head should be turned to one side and the jaw kept well forward. The time for the restoration of consciousness varies, the average being about twenty minutes; during this time the patient should not be left alone.

Do not under any circumstances crowd the anesthetic because you are told to get the patient under immediately; take your time, even if it annoys the operator. It usually requires from six to twelve minutes to get a patient under. Alcoholics require a longer time—in fact, I have seen some who could hardly be kept under the influence of anesthetic at all. Of course, such a narcosis will be very disagreeable to the surgeon, but always remember the fact that the welfare of the patient is in your hands. Always be on the lookout for danger-signs and do not be afraid to inform the operator if anything goes wrong. Speak right out in a clear, forcible tone and state to him the exact condition present.

Do not place too much dependence on any one sign. Take in the general condition, the nature of the operation, its duration, and how the patient is bearing it. Above all, do not lose your head. Keep cool and work quietly and rapidly. If any accident should occur inform the surgeon at once. Be careful in anesthetizing infants and very old people, for cardiac failure comes rapidly, with little or no premonition.

Brief Summary.—The chief advantages of M. S. are the following:

1. Stage of excitement and struggling are not marked.
2. It requires a short time to get a patient under, five or ten minutes.
3. Very little of the anesthetic is required. On an average about 40 c.c. are used an hour.
4. It is a comparatively safe anesthetic.
5. It is very pleasant to take.
6. The after-effects are not marked.
7. Patients recover quickly.
8. It can be used in nearly every condition in which either chloroform or ether is employed.

Sale of Horse-Meat Forbidden.—The Board of Health met this week and by a unanimous vote prohibited the future slaughter of horses in this city and the sale of meat from all such animals.

A REPORT OF SOME CASES OF ABDOMINAL SURGERY, WITH REMARKS ON THE DIAGNOSIS OF CARCINOMA OF THE CECUM AND THE SURGICAL TREATMENT OF CARCINOMA OF THE LIVER AND THE GALL-BLADDER.¹

By CHARLES GREENE CUMSTON, M.D.,
OF BOSTON, MASS.

THESE remarks might be more properly entitled a "potpourri" of surgical subjects and the only excuse that I have for offering them to this Society is that at the present time we are far from knowing all that there is to know about a number of affections of the various abdominal viscera and how far they may be dealt with surgically. The lesions of the abdominal viscera are in many instances an unknown quantity until the abdomen has been opened, and oftentimes the diagnosis made before laparotomy is done is most uncertain. The various manifestations of tertiary syphilis affecting the abdominal viscera are as yet very imperfectly known, and I believe much remains for surgery to find and to deal with in the abdominal manifestations of this universal and protean affection.

Case I.—Mr. B. S., aged forty-one years; married; the father of four children, two of whom died at birth, while the two living ones, who are the last of the series, are healthy to all appearances. The personal and hereditary antecedents of the patient are without interest. He denied having had syphilis, and he gave no evidences of overindulgence in alcohol. About three months before I saw the patient, he had become suddenly jaundiced, and after a short time pain was complained of in the right hypochondriac region, as well as in the right shoulder-blade. By palpation the border of the liver could be made out extending about four fingerbreadths below the ribs, and reaching over toward the median line. There was a slight amount of ascites, and the patient had lost ten or twelve pounds in weight since the commencement of his illness. There was no edema of the lower extremities and at no time had there been melena or hematemesis.

A careful examination of the other abdominal viscera, as well as of the heart and lungs, failed to reveal any other abnormal condition present. A careful search for enlarged lymphatic glands in the axilla, groin, supraclavicular region, or in the neck, proved negative. The diagnosis of malignant disease of the liver or gall-bladder was made, and an exploratory incision was advised and accepted.

An incision was carried along the outer border of the rectus muscle over the growth, and the enlarged liver was exposed after breaking down numerous friable adhesions that it had contracted with the parietal peritoneum. The liver was very hard to the feel, and two nodules about the size of English walnuts projected from the anterior surface of the right lobe near its border; their

contour was regular, and their surface somewhat nodular; in color they were lightish yellow. There was no evidence of carcinoma of the liver, gall-bladder or peritoneum. An incision was carried across both nodules, and a large amount of cheesy matter removed, leaving two rather clean-cut, cup-like cavities in the liver. These cavities were packed with gauze and the abdominal wound was closed excepting at the upper part which gave exit to the drains. These were removed at the end of four days and the abdominal wound remaining closed rapidly by granulation.

The patient was placed on iodide of potassium, four grams a day; as his stomach withstood the iodide perfectly, he was kept on it for three months and a half. The jaundice completely disappeared after about five weeks of treatment with the iodide, and at the end of three months the liver had decreased in size so that it could no longer be made out by palpation or percussion beyond its natural limits. The patient has been under observation ever since, now a period of eighteen months, and has remained perfectly well. This is clearly a case of gummata of the liver, but I have never been able to make the patient admit that he had suffered from syphilis.

Case II.—Miss X., aged nineteen years; referred by Dr. Charles W. Knowlton of this city. A year previous to our seeing the patient, she had suffered from a typical attack of gall-stone colic, with all the characteristic symptoms of yellow skin and conjunctiva, clay-colored stools, anorexia and severe pain in the region of the gall-bladder. She made a good recovery after a few weeks of treatment, and, although the calculi was searched for in the stools, none had ever been found.

We saw the patient during a second attack of jaundice and pain in the region of the gall-bladder in May, 1897. At this time the skin and conjunctiva were deeply jaundiced. Anorexia was almost complete, the stools were white, and the tongue thickly coated. Pulse 60 per minute; temperature 36.5° C. (97.7° F.). The patient was a very slightly-built girl, and by palpation of the abdomen the presence of a large globular tumor in the right hypochondriac region, which might be about the size of a large grape fruit, was made out. This tumor was extremely sensitive to pressure. A diagnosis of a gall-bladder filled with calculi was made, and this diagnosis was concurred in by Dr. David W. Cheever and Dr. Edgar Garceau who saw the patient.

After a preparatory course of medical treatment extending over two weeks, the patient was operated upon. An incision parallel with the outer border of the rectus was made, and when the peritoneum was reached, what appeared to be the fundus of the gall-bladder was distinctly felt adherent to the serous membrane. The latter was picked up and carefully incised to the extent of about four centimeters, and when this opening had been made it was found that the supposed gall-bladder was adherent to the peritoneum over quite an extensive area. The organ was carefully separated from the peritoneum by breaking down

¹An address delivered before the Cheshire County Medical Society, Keene, N. H., Oct. 9, 1900.

the adhesions all around the edges of the incision, but as the organ was nicely walled from the peritoneal cavity it was found unnecessary to pack the incision with gauze. The aspirating-needle was slowly introduced for about three or four centimeters, but did not come into contact with any calculi, and a vigorous use of the aspirator did not withdraw a single drop of fluid. Several attempts were made, but no gall-stones were encountered by the needle, and nothing but a little dark blood would come away when the latter was withdrawn.

Not being able to account for the condition of affairs present, the adhesions between the organ and the peritoneum were broken down, and, when the hand could be introduced into the free abdominal cavity, our surprise was great when we found that there was a large mass the size of a fetal head extending from the under surface of the liver and dipping down well into the pelvic cavity. The surface of this mass was very nodular and hard. Raising up the borders of the incision with a broad retractor, the cavity was inspected and a small gall-bladder was seen in its normal position. The supposed gall-bladder was a large carcinomatous liver, and, as a radical operation was out of the question, the abdominal wound was immediately closed. The patient died shortly after the operation, but unfortunately no autopsy could be obtained.

Case III.—Mr. S., aged thirty years; married; seen in consultation with Drs. George W. Clement and L. H. Guptil, when the following history was obtained. The patient had always been well up to the time that he contracted typhoid fever about six weeks before we saw him, and for which he had been attended by Dr. Guptil. The fever had run its usual course, but when convalescence was about to take place the temperature, which had been gradually reaching the normal, went up after the patient had complained of a sudden pain in the right iliac fossa which had occurred after an enema had been administered to unload the large intestine. This sharp sudden pain was not of long duration, and at the time of its occurrence neither pulse nor temperature seemed to be affected, and there were no signs of intestinal perforation nor of collapse.

A few days after this attack of pain the temperature began to go up, and the patient complained of some pain in the right iliac fossa. Dr. Clement, who then saw the patient, found a mass in the iliac region which he diagnosed as an abscess, probably starting from the appendix. The patient was etherized and an incision over the most prominent part of the tumor was made, and when the peritoneum was reached a large amount of pus was evacuated. The cavity was explored and seemed to be well limited, so that no attempt to find the appendix was made. Drainage-tubes were inserted and after about two weeks' time all discharge had stopped and the wound had closed nicely.

About three weeks after the operation for the iliac abscess, the patient, who had been doing

nicely, began to complain of pain in the region of the gall-bladder and in the right lumbar region, and, as the temperature was going up, my opinion was asked for. Examination showed a tall, blond man, with a very hectic appearance. There had been on several occasions a slight hemorrhage from the gums. The tongue was covered with a white fur and the skin and conjunctiva were very slightly jaundiced. The patient presented all the aspects of one suffering from a low form of sepsis. The temperature was 38° C. (100.4° F.) and there was a weak wiry pulse of 110 to the minute.

Abdominal palpation showed a large mass in the region of the liver and which could be better felt by placing one hand in the lumbar region and the other over the anterior abdominal wall. This mass appeared to give rise to a slight sense of fluctuation and appeared to be rather globular in shape. On pressure the patient complained of much pain in the region of this tumor. In my opinion one of three conditions was present, which I named in order of probability, *viz.*, an abscess of the liver, empyema of the gall-bladder, or pyelonephrosis. Exploratory incision was advised in order to evacuate the pus and, believing that it was the liver that was most likely involved, a buttonhole was made over the most prominent part of the growth in the anterior abdominal wall. When the peritoneum was reached it was found that the tumor had contracted intimate adhesions with the serous membrane, and after these had been broken down sufficiently to allow the finger to be introduced, it was found that the liver was adherent everywhere.

The adhesions were broken down and the abdominal cavity was explored. The tumor was the greatly enlarged right lobe of the liver, the gall-bladder could not be found, while the right kidney, which was normal in size, had been pushed down into the pelvis by pressure from the enlarged liver. The external aspect of the liver was perfectly normal as to color; by carefully palpating it no distinct point of fluctuation could be made out, but while doing this a few drams of thick pus escaped, but we were unable to trace its origin. An aspirating-needle was inserted into the most prominent part of the liver in several directions, but no abscess cavity could be located. After careful exploration for pus, none being found further than the small pocket which was evacuated and of which we have already spoken, the cavity was packed with gauze and part of the abdominal incision closed.

The patient survived forty-eight hours. At the autopsy the following condition of affairs was discovered: In the right iliac fossa a large abscess cavity was found at a point where some of the small intestine was adherent to the parietal peritoneum. This abscess cavity, which contained about 150 c.c. of greenish-yellow pus, did not seem to have any connection with the abscess which had been opened three weeks previously by Dr. Clement. The right kidney contained several infarcts. The liver was enlarged considerably and had contracted adhesions with the stomach, large

intestine and parietal peritoneum. It was light brown and greasy. The right lobe of the liver, which had been explored with the aspirating-needle during the operation, was found to contain a well-formed abscess about the size of a lemon near its free border, but which was distinctly in the midst of the parenchyma of the organ, as much as two centimeters of liver tissue surrounding it on all sides, and no indication of its presence either by the color or tumor on the surface of the liver could be found. It is very probable that this abscess was in a miliary state at the time of the operation and it developed rapidly, because, were it otherwise, pus would have been withdrawn from it when the needle was introduced. No other trace of abscess formation could be found in the liver although carefully searched for. This case is particularly interesting in point of view of diagnosis and is a pathological rarity, inasmuch as pyemia following typhoid fever is of rather rare occurrence, particularly the location of pus in the liver.

Case IV.—Mr. B., aged twenty-eight years; single; was referred to me by Dr. Ernest Burden of Brookline with the following history. In the early part of November, 1899, the patient began to complain of a general weakness, and at the same time an alternating constipation and diarrhea supervened. After a week or so, he was obliged to keep his room, the diarrhea and constipation becoming very troublesome. Anorexia was marked, the tongue thickly furred, and the temperature ranging between 38.5° C. (101.3° F.) and 39° C. (102.2° F.). The patient gradually lost flesh during this illness until he had lost forty-seven pounds. Things continued pretty much the same until within a week before I saw him, at which time his physician noticed a large tumor on the left side of the abdomen and to which his attention was called by the patient who experienced a sensation of fulness in the abdomen and what he described as prickly pains.

In September, 1899, I had operated on this man for a large congenital inguino-scrotal hernia, doing a Bassini's operation. The hernia was composed entirely of omentum, and at the time of the operation about a pound and a half was ligated and removed. The patient made an uninterrupted convalescence and a very satisfactory result was obtained. At the time of operating for the hernia he was a very healthy man and presented no other pathologic condition.

The patient first felt the fulness one morning; as he arose from his bed he felt a weight at the site of the operation and placing his hand there found that a small bunch was protruding through the inguinal canal.

I saw the patient the latter part of December, 1899, about eight weeks after the commencement of his present illness. He was pale, the complexion rather sallow, the tongue thickly coated, and a temperature of 38° C. (100.4° F.). The pulse was regular, full and 78 to the minute. Examination of the abdomen revealed a globular mass completely filling up the left half of the

abdomen; its surface was very slightly lobulated and was somewhat tender on pressure. There was complete dullness on percussion from the costal border down into the iliac fossa on the left side. No enlarged lymphatic glands could be discovered at any of the usual regions. The urine was dark colored and had a specific gravity of 1021.

My diagnosis was a probable sarcoma of the left kidney, but, being somewhat in doubt as to my diagnosis, Dr. A. M. Sumner kindly saw the patient in consultation, and he rather inclined to a diagnosis of primary tuberculosis of the spleen. We, however, agreed that an exploratory incision was justifiable, and the patient was admitted to the hospital.

A small buttonhole incision was made over the most prominent part of the tumor, and when the peritoneum was reached it was found intimately adherent with the mass. A small piece of the growth was excised and submitted to a pathological examination. The report of the pathologist returned to us was that it was a typical specimen of myxosarcoma, but of what organ it was impossible to say.

On the strength of the pathological diagnosis I concluded that my diagnosis of renal sarcoma was correct, and I accordingly advised the removal of the kidney which was accepted by the patient. Two days later a long incision, measuring about 35 centimeters, was made over the tumor. We broke down the adhesions and while working toward the median line, the hand suddenly entered the general peritoneal cavity. Words can hardly convey to the mind the condition of affairs that was present. The intestines, both large and small, were all matted together in a dense, cheesy tissue, which was rather friable and when handled gave rise to a considerable venous hemorrhage which it was rather difficult to control. A careful exploration decided very quickly that nothing could be done for the patient's relief and the abdominal wound was closed.

To make a long story short I would say that the patient progressed nicely after the operation and that the wound closed perfectly. His appetite improved and his bowels became more regular. Believing that I was dealing with a diffuse syphilitic tumor of the intestines, I decided to place the patient on iodide of potassium in large doses, and this was begun nine days after the operation. When the dose reached four grams of iodide daily, the patient rapidly improved, so that at the end of two months no trace of tumor could be detected within the abdomen. He slept well, ate ravenously, and six months after the operation weighed 159 pounds, which was a gain of 49 pounds.

In closing the history of this interesting case, I would say that in speaking with the pathologist who examined the specimen he told me that the possibility of tuberculosis was out of the question, and that, although this specimen examined microscopically represented a perfect type of myxosarcoma, there was no doubt in his mind but that he was in error and that the lesion was syphilitic.

Case V.—A young man, aged twenty-one years, who was active in athletics at his college, was taken sick as follows. The afternoon before he had taken unusual active exercise in the gymnasium, ate a hearty meal, and retired early feeling perfectly well. Upon awaking the next morning he complained of a severe pain in the right iliac fossa which confined him to his bed and increased in severity as the day went on. His family physician, of homeopathic persuasion, saw him late in the afternoon and found a pulse of 110 and a temperature of 39° C. (102.2° F.). The usual treatment for acute appendicitis was apparently given here, namely, ice-bags to the iliac fossa and immobilization of the bowels by opium. The next morning the condition of affairs was practically the same, but the patient, who had had a severe chill at about five o'clock in the morning, complained of considerable pain in the left side of the abdomen.

By night the boy's condition had become con-

nent part of the tumor and parallel with Poupart's ligament. A large amount of pus and fluid feces escaped, and the abscess cavity was thoroughly washed out with peroxide of hydrogen. We next turned our attention to the mass on the left hand side of the abdomen over which, in its most prominent part, we made an incision parallel with the border of the rectus muscle to the extent of about ten centimeters. When the peritoneum was reached we found the omentum closely adherent to it, and breaking through this we entered an abscess cavity situated between two intestinal coils.

By carefully exploring the parts with the finger a number of adhesions were broken down, each one walling off a small abscess pocket; some ten or twelve abscess cavities were evacuated, care however being taken not to break into the general peritoneal cavity. Three large drainage-tubes were then introduced in different directions. The cavity in the right iliac fossa was also drained. When inserting the tubes the appendix was seen at the bottom of the wound pointing directly downward toward the bladder and adherent to the surrounding bowel; it was peeled out from its bed and removed without any very great difficulty. The patient made an uninterrupted, though slow, recovery, and at the present time, thirteen months after the operation, is in excellent health.

I interpret this case as being an acute gangrenous appendicitis due to torsion of the appendix during violent physical exercise. I have met a number of cases of appendicitis occurring in young athletic men in robust health, and almost all of them were of the fulminating variety, so that now I always advise immediate operation regardless of the symptoms present in this particular class of cases of appendicitis, and I have never yet had cause to regret it, as in every instance the appendix was sloughing and ready to break down even as early as twelve hours after the commencement of the pain. This, however, is the only example of secondary abscess formation within the abdomen due to an acute suppurating appendicitis with which I have met, with the exception of the liver.

(To be Continued.)

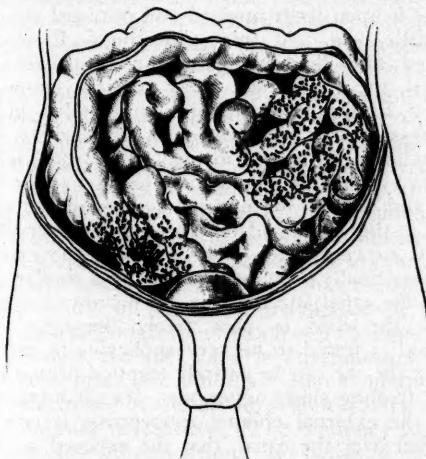


Fig. 1.

Diagrammatic figure illustrating case of gangrenous appendicitis, with metastatic abscesses on left side of abdominal cavity.

siderably worse. He was vomiting a bile-colored liquid and the body was covered with a cold perspiration. Being alarmed by his condition, the family desired a surgeon, but as the request was laughed at by their physician, the latter was discharged from the case and I was summoned.

On examination I found a well-built young man presenting all the classical symptoms of an acute septic process within the abdomen. Examination showed a large tumor in the right iliac fossa and another one about the size of a fetal head in the left side of the abdomen midway between the crest of the ilium and the border of the false ribs. Diagnosis of perforating appendicitis with secondary abscess formation within the abdomen on the left side was made and operation was advised and performed an hour later. We opened the right iliac fossa by an incision carried over the most promi-

MEDICAL PROGRESS.

Management of the Breast During Lactation. The lack of cleanliness in caring for the nipple is responsible for nearly all cases of infection and abscess of the breast. C. S. BACON (*N. Y. Med. Jour.*, Jan. 12, 1901) advises that the nipples be washed with clean water before nursing and with 75-per-cent. alcohol after nursing. They should always be protected by clean dressings, and handled with sufficient care to avoid any abrasions. When wounds occur shields are of great value, but they should be large enough to cover the areola and cause no pinching of the nipple. Alcohol seems to be the best antiseptic

to apply to the abrasions. When the first symptoms of infection have appeared, nursing from that breast should cease and the breast should be supported and put at rest by a proper bandage. A circular bandage may be sufficient if the breasts are held upward and inward toward the median line. The application of an ice-bag is an important adjuvant to the treatment of an infected breast. If pus is suspected a hypodermic needle may be used to determine its presence and it should be evacuated as soon as it is discovered under a local or general anesthetic.

Coxa Vera.—This condition consists of a deformity of the upper epiphyseal region of the femur, owing to which the head of that bone sinks to a lower level than normal, even in extreme cases almost touching the lesser trochanter. During the last twelve months W. E. BENNETT (*Birmingham Medical Review*, Dec., 1900) has had four cases of this disease come under his observation, and he reports them in detail. The writer gives a history of the literature on the subject, which shows that of ninety cases reported by various observers, sixty-eight were of the male sex. Bennett classifies coxa vera, according to the age of the patient, as follows: (1) Congenital; (2) childhood; (3) adolescence; (4) adults—osteomalacia. He considers only the coxa vera of adolescence which has been subdivided, according to the signs and symptoms, by Hofmeister into three groups, thus: (a) Characterized anatomically by downward displacement of the head of the femur and elevation of the great trochanter above Nélaton's line, the only signs being shortening of the limb and prominence of the great trochanter and the only symptoms more or less pain at the hip-joint and limited power of abduction, together with a slightly limping gait. (b) Has all the characteristics of group 1, plus a diminution of internal rotation, due to the curving backward of the head of the bone, the limb being generally slightly everted. (3) Has all the characteristics of group 1, plus diminished external rotation, due to the head of the bone being curved forward, the foot and limb being generally inverted. The writer discusses the etiology, age of onset, the signs and symptoms, the diagnosis and prognosis of the disease, and says that in treatment there are the three following indications: (a) The general condition upon which depends the softening of the bone; (b) the pain, and (c) the deformity. Rest quickly does away with the pain, and also checks the advance of the deformity, the body weight being removed. When the deformity is very marked, subtrochanteric osteotomy of the femur or cuneiform osteotomy of the neck of the bone may be done. In very few cases, however, does the writer think that operative procedure will be necessary, because of the extent of the relief his patients obtained from rest in bed. Bennett believes that a diagnosis is absolutely impossible without the use of the Roentgen rays.

A New Method of Herniotomy.—A. L. DENTU (*Revue de Chir.*, Dec. 10, 1900) states that for the last twelve years he has performed the method of operating for the radical cure of inguinal hernia detailed as follows: The aponeurosis of the external oblique muscle is exposed through the same incision as in the Bassini operation and then cleaned up very carefully. The sac is sought among the tissues of the cord distal to the external ring and dissected out by any procedure of choice. Then, within the inguinal canal, without slitting up its anterior wall, by traction and dissection the balance of the body and the neck of the sac are freed into the internal abdominal ring. Just lateral to the site of this ring a small incision, about a centimeter long, is made through the external oblique aponeurosis in the direction of its fibers. Through this hole a special forceps is passed bluntly tearing its way into the upper extremity and along the course of the inguinal canal as far as the external ring. Here it sizes the fundus of the sac and draws it upon itself upward and outward through the little hole. At this point the neck may be twisted and doubly ligated or transfixed and ligated, the fundus cut away and the stump returned to the internal ring or included in the mattress sutures which close the little incision. The redundancy of the anterior wall of the canal is corrected by making a fold in it parallel to its long axis and secured by mattress sutures placed vertically to the surface of the abdomen at intervals of about one centimeter. The edges of the external ring are finally brought together by a similar plan. Thus the canal and the ring are narrowed so as to allow the cord to pass freely through. This method is found to be very applicable to cases in which the sac can be entirely emptied primarily or after freeing slight adhesions. Its advantages are that the external oblique aponeurosis is nowhere divided over the canal, that the apposed surfaces are not cut edges, but broad intact areas, and that all the sac is obliterated as in the Bassini method. His results are as good as with the Bassini operation.

Pregnancy After Removal of Both Ovaries.—Cases of pregnancy following removal of both ovaries and tubes are rather rare. M. A. MORRIS (*Boston Med. and Surg. Jour.*, Jan. 24, 1901), reports the occurrence of such a case in his practice. The patient had had dysmenorrhea for a number of years, in fact, since the birth of her boy who was four years of age at the time she consulted the writer. After examination and some preliminary treatment she was operated upon for disease of the ovaries. The right ovary contained a cyst as large as a hen's egg and the left ovary a hematoma nearly as large as the cyst. The ovaries and tubes were tied off with silk quite close to the uterus and removed; the patient made a rapid recovery. She began to menstruate soon after the operation, and continued to do so regularly and painlessly for about four months. Then she complained of morning sickness, nausea, cardialgia, and also abdominal enlargement. An examination

showed that she was pregnant. In due time she was delivered of a healthy girl. The child died two or three weeks after birth, and soon after that the patient menstruated and has continued to do so regularly and normally ever since. The only explanation Morris offers for this pregnancy after removal of both ovaries and tubes is that there may have been a third ovary or that a scrap of ovarian tissue must have been left behind. He cites a number of writers who have reported similar cases, and also a few who have found supernumerary ovaries.

Treatment of Acute Rheumatism.—Since MacLagan, in 1874, introduced the salicyl compounds in the treatment of rheumatism, the physician has possessed a most satisfactory and certain remedy and the patients' suffering has been greatly minimized. Whether this drug acts as an antiseptic, destroying the specific organism, or has an antitoxic action, or is merely a nerve sedative, is yet unknown, but its specific action is none the less certain. A. P. LUFF (*Practitioner*, Jan., 1901), in reviewing the treatment of this disease, says that the salicylates must be given in large doses, twenty grains every two hours, until the acute symptoms have subsided, and then in smaller doses for at least two weeks more. The reason that relapses have apparently become more frequent is undoubtedly due to the fact that patients are allowed to get up and the drug is stopped too soon after the subsidence of the acute symptoms and before the disease has actually ceased. The treatment by alkalies was originally based upon the belief that rheumatism was a result of excessive production of lactic acid, and, although this theory is no longer held, the alkalies are still used in combination with the salicylates to diminish the tendency to hyperfibrinosis of the blood, which occurs when the alkalinity is lessened. The tendency toward endocardial complications is believed to be diminished thereby. Potassium bicarbonate, thirty grains, may be given every two hours at first and the dosage gradually cut down. The disagreeable effects of the salicylates may be largely obviated by the free use of calomel. Sodium salicylate seems to be the most efficacious preparation, but when not well tolerated salacin should be substituted. Absolute rest in bed, woolen clothing, and a fluid diet are essential. For the relief of pain in a joint, blistering, tincture of iodine, or, better still, the application of a piece of lint saturated with about a dram of salicylate of methyl, will be found very beneficial. Hyperpyrexia is not a very frequent complication since salicylates have been so freely used, but when it does occur energetic treatment by means of cold baths, cold packs, and stimulants, should be at once employed.

New Objective Test for Mastoiditis.—ALBERT H. ANDREWS (*Jour. Am. Med. Assoc.*, Jan. 26, 1901) says that the use of the stethoscope and the tuning-fork to determine the comparative density of the two mastoids is a valuable aid in the diagnosis of mastoid complications. The

method he believes to be a new one. The test is made by placing a stethoscope with a small bell over the tip of the mastoid and placing the handle of a vibrating tuning-fork over the antrum. It is found that when the mastoid is filled with pus or granulations, or when it is dense from obliteration of the air-cells, the sound-waves are transmitted to the ears of the examiner more distinctly than when the same test is made on the opposite or normal side. Care must be taken not to stretch the skin between the tuning-fork and the stethoscope, for then the vibrations are heard better than when the skin is not stretched. The lower border of the middle fossa can also be very accurately located by the same method. The line indicating the change from cranial cavity to mastoid is usually well defined. The position of the lateral sinus in relation to the mastoid can be determined in the same manner, but not so accurately. The writer has found this test of use in his examinations of mastoid cases. He reports a case in detail showing the advantage of this test.

Treatment of Influenza.—After pointing out the differences in the clinical aspect of the ordinary grip attack this year, when catarrhal symptoms are so prominent, as compared with the epidemic which occurred in 1890, W. H. THOMSON (*N. Y. Med. Jour.*, Jan. 26, 1901) offers the suggestion that the mildness of the recent cases has been partially due to an immunity acquired by a previous attack of this most prevalent contagious disease. To counteract the vascular derangements of the respiratory tract, aconite is a very favorite remedy in the early stages. Phenacetin seems to have a most beneficial effect upon the febrile pains and, when combined with quinine, is thought to have perhaps a true antitoxic effect upon the influenza poison. They are used not so much to reduce the temperature as to mitigate the symptoms and prevent sequelæ. A favorite prescription with the author is: Extract of aconite, gr. $\frac{1}{6}$; Dover's powder, gr. j; phenacetin, grs. iv; quinine, grs. iii, made into two pills, but given at one dose, three times a day. When nasal catarrh is a prominent symptom a pill containing an eighth of a grain of belladonna and two grains of camphor afford relief. A flushing of the throat by a Davidson syringe with a quart of hot water, containing two drams of potassium chlorate and five minims of oil of peppermint, is very grateful. Attacks of excruciating pain in the supraorbital region, with photophobia often coming on at regular intervals, is almost certainly relieved by dram-doses of fluid extract of ergot. A very troublesome complication is the presence of large quantities of viscid sputum in the bronchioles, which keeps up a futile and exhausting cough. The emulsion of linseed oil, half an ounce, with a twelfth of a grain of morphine sulphate and eight grains of chloral, has been used for years by the author as the most efficient means of liquefying a viscid mucus of the bronchi.

Leontiasis Ossea.—A case of this very unusual condition is reported by E. H. E. STACK (*Bristol Med.-Chir. Jour.*, Dec., 1900). The patient was a female, aged two years, with no important etiological history, except that when very young she received an injury to the head which required several months to heal. When about seven, the enlargement of the head was noticed and this gradually increased, being considered due to hydrocephalus. Her mental condition was remarkably good. She died suddenly of acute obstructive dyspnea due to a tumor in the nasopharynx. At autopsy the skull was found to be greatly thickened, the vault being in some places three inches. The skull weighed eight and one-half pounds and appeared to be normal in shape on its interior, none of the foramina being constricted. The brain was normal in size and appearance. There was a double scoliosis, a distorted pelvis and the femora were bent forward, but there was no enlargement of any bone except those of the skull. The liver was fatty and cirrhotic and possibly syphilitic. The thyroid contained a mass which resembled the appearance of the gland in exophthalmic goiter. No other lesions could be found.

THERAPEUTIC HINTS.

Dyspepsia Pills.

B Quinin. sulph.....
Ext. rhei.....
Ac. carbol.....aa. 1.0 (gr. xv)
Pepsin 5.0 (gr. lxxv)
M. ft. pil. No. XXX. Sig.: One before each meal at which meat is taken.—*Lennox Browne*.

Furunculosis.—Attend to the general health, writes GEO. T. JACKSON, look for diabetes or other constitutional disease and give tonics. Among the remedies recommended are sulphide of calcium, gram 0.006 (gr. $\frac{1}{10}$), every two or three hours, the compound syrup of the hypophosphites, grams 8.0 (3 ij), three times a day, sodium hyposulphite, gram 1.0 (gr. xv), three times a day, tar-water up to a quart a day, or half a wineglass of yeast night and morning. Le Gendre advises for intestinal antisepsis every four hours:

B Betanaphthol
Bism. salicyl.....
Magnes. carb.....aa. 0.3 (gr. v)
Boils should neither be poulticed nor squeezed. They may often be aborted by injecting pure carbolic acid, applying ointment of the red oxide or nitrate of mercury, or painting with iodine. If the boil is already mature, thrust a little pure carbolic acid into its central opening by means of a wooden toothpick, then dress with carbolized vaseline or boric-acid ointment. Or it may be opened and dressed with iodoform or aristol.—*Diseases of the Skin*.

Aortic Aneurism.—The remedy *par excellence*,

writes H. A. HARE, is potassium iodide, gram 0.05-1.3 (gr. x-xx), three times a day, with complete rest in bed, and a non-stimulating, easily digested diet, or even an absolute milk diet. If the heart is excitable and irregular, with high arterial tension, tincture of veratrum viride, gram 0.065-0.13 (m. j-ij), may be given two or three times a day, but no digitalis. Aconite is of less use than veratrum. Opium, morphine and chloral, or, best of all, croton-chloral may be given for pain and restlessness, as:

B Morph. sulph.....0.08 (gr. $\frac{1}{8}$)
If dyspnea is marked, "whiffs" of chloroform
Croton-chloral0.65 (gr. x)

are useful.—*Practical Therapeutics*.

Bronchopneumonia in Infants.—In every case of bronchitis, whooping-cough, measles, scarlatina, diphtheria, etc., isolate the patient, avoid catching cold, keep nasal passages and mouth clean with boric-acid solution, and keep bowels open with calomel, says CARRIÈRE. When the bronchopneumonia has declared itself keep the patient in bed in a well-ventilated, cool room, wrap the lower limbs in cotton, and have the child's position changed often. Feed plenty of milk, bouillon and beef-juice and much water to drink. To lessen the congestion and increase the evacuation of pathological products, give syrup of ipecac, grams 4 (dram j) every five minutes till vomiting supervenes, and follow by warm water; then give every three hours a tablespoonful of the following:

B Ergotin 0.06-1.0 (gr. j-xv)
Strych. sulph.. 0.0002-0.0005
(gr. $\frac{1}{300}$ - $\frac{1}{120}$)
Syrupi 20.0-40.0 (3 v-x)
Aqua ad. 120.0 (3 iv)

And apply dry cups, mustard plasters, or poultices. Stimulate the body with warm baths or mustard baths, and with a suppository night and morning of quinine hydrobromate, gram 0.06 to 0.40 (gr. i-vij). Cleanse nasal passages with ten-per-cent, mentholated oil, the mouth with boric-acid solution, and the bronchi by the internal administration of eucalyptus, terpin hydrate, benzoate of sodium, etc. Give every day a grain of calomel for each year of age. For feeble heart give digitalis, sparteine sulphate or benzoate of caffeine; for dyspnea, inhalations of oxygen; for collapse, friction with hot flannels wet with spirit of camphor, or inject solution of camphor in oil or ether. During convalescence, give cod-liver oil or the following:

B Calc. lactophos..... 60.0
Calc. glycerophos..... 60.0 (aa $\frac{5}{3}$ ij)
Aqua 1 liter (1 quart)
—*Le Nord Médical*.

Colic With Tympanites.

B Spt. aetheris comp..... 2.0 (3 ss)
Tinct. opii camph..... 8.0 (3 ij)
Aq. chloroformi..... 30.0 (3 i)
Aq. menth. pip..... 60.0 (3 ij)

M. Sig.: A tablespoonful every hour or two according to the severity of the attack.—*Le Progrès Médical*.

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SATURDAY, FEBRUARY 9, 1901.

THE MAJESTY OF THE LAW.

WHAT a fine thing it must be to be a Judge and settle delicate ethical questions regardless of the prevalent opinion of humanity. Nothing need ever perturb a Judge any more than the Cardinal who was dining on a Friday at the house of a lady who had forgotten the fast of the Church. "Let all that is on this table be fish," said the Cardinal and he straightway proceeded to make a good dinner.

It has long troubled the medical profession that its members should be subpoenaed to appear in court, regardless of their appointments and office hours. Lawyers are not so summarily treated, but are consulted as to their convenience. Dr. Keen was once interrupted in the midst of an important operation by a process-server, but he refused to leave the operating-table as his patient's life would be endangered, and the Judge excused him.

The shortsightedness of common sense would have said, save your patient always and then go to court. But who ever heard of other witnesses being kept waiting, of a case being postponed, or a verdict delayed, or any of the terrible contingencies that might occur if a physician delayed to ease a hurt or save a life. No, a case in

hand proves it. Dr. W. D. Moore of Philadelphia was late by half an hour in court, whether he had been summoned as a witness in an accident case. The Judge, we spare him the notoriety of mention, fined him ten dollars. He pleaded that he had been with a patient who was critically ill, and that he had tried to catch the train. "Well, then," said the august Judge, "because you tried to catch the train I'll take off the ten dollars, but, remember," and here let physicians note the decree, "it were better that the patient should die than that the community's witnesses should place themselves in contempt of Court."

The Biblical implication is that only "the Judge of all the earth" is infallible, therefore we must not place too much stress on the dictum of the Judge of Philadelphia; for we think that if he had been able to kick a dog or slam a door accidentally, when he felt himself constrained to accept the doctor's excuse, he would not have loaded himself with so much responsibility concerning the ethics of medicine and the law.

**DR. KEEN ON THE PROGRESS OF SURGERY IN THE
NINETEENTH CENTURY.**

THE surgeon's art at the end of the Eighteenth Century was little more than skilful butchery; and yet the surgeon who amputated a limb or removed a cancerous breast had his heart wrung as no surgeon of to-day has by the suffering he was obliged to inflict to save life, and by the uncertainty of the success of his operation. Today the suffering and the uncertainty are reduced to a minimum through the discovery of anesthesia and antisepsis; with the result that the skilled speed that was once so necessary to shorten the agony of the knife is now replaced by the deliberate skill required in minute dissections, and the ever-present dangers of blood-poisoning, erysipelas and gangrene are banished by the knowledge of the bacteria that cause them.

Dr. Keen, in his very comprehensive and critical history of the Progress of Surgery During the Nineteenth Century, published in the *New York Sun* of Sunday February 3d, traces the great factors that have revolutionized this branch of medicine, and it is with a feeling of amazement that we wonder how such advances could have been made in so few years.

It is to the underlying sentiments and to the quiet individual work that we owe the detailed

success. The discovery of ether and chloroform was even in itself perhaps the greatest complete discovery, but the exploding of the theory of spontaneous generation and the proof of the resistance of bacteria by Pasteur, with the discovery of antisepsis by Lister, were but the beginning of endless experiments made by patient laboratory workers on countless of the prolific lower animals, and of a series of discoveries that have run every diseased tissue of the body to its origin. The interest in this résumé of surgery lies for us, therefore, not so much in the distinguished names of discoveries, but in the cooperative work of all surgeons of the world.

One of these forces has been the impetus in the study of anatomy and pathology. It is only very recently that the requisite material for such studies has been provided by law. Formerly, to steal a dead body was the only means of acquiring a cadaver. In England up to 1832 a regular traffic in human bodies existed as well as here.

Sir Astley Cooper, in his testimony before the Parliamentary Committee made a shiver run down the backs of the noble lords by saying that in order to dissect the body of any of them it was only necessary for him to pay enough. As a result of the atrocities that were perpetrated in order to acquire sufficient material, the laws in England and of most of the States have made it possible to obtain a reasonable number of cadavers.

Another cause and effect of increased skill in operations is the invention of instruments of precision which ingenious surgeons of every land have contributed to the science and an equal factor has been the constant interchange of methods by surgeons by means of the medical journals that have increased with such astounding rapidity during the last twenty-five years. Prior to the last few decades there were a few celebrated men to whom people came for major operations all over the country. An Astley or a Pancoast was himself the genius that made a difficult operation successful in past decades; to-day it is applied technic or the collaborated results of the work of different men. Willard Parker's operation for abscess above the groin, the precise significance of McBurney's point, these and other new ideas have been spread over the whole civilized world by means of the literature, and now, after twenty years, there is probably not a city in the United States in which some surgeon has not performed successfully the operation of appendicitis.

Operations on the stomach, the kidneys, the lungs, the heart and the brain, the organs that were heretofore considered impossible to touch, are every day becoming more common; and not only are these done by the few celebrated surgeons who have devised them, but by the internes in hospitals and the young men of the country.

With the Roentgen ray illuminating one's very bones, and the application of spinal anesthesia, the new century has dawned with vast possibilities; and Dr. Keen states that marvelous as has been the advances of surgery in the Nineteenth Century, especially in the last thirty years, he believes that still more wonderful things lie hidden in the realms of surgery that the Twentieth Century will reveal.

REPORT ON ANESTHETICS OF THE BRITISH MEDICAL ASSOCIATION.

THE long-promised report of the Anesthetics Committee of the British Medical Association is an important document, as might have been expected from the time and trouble spent in its preparation. The material upon which it is based was collected in 1893. But the detailed examination and classification of the 25,920 recorded cases have required much time and trouble. Upward of 800 cases have been printed with all available details and give examples of almost all the varieties of complications.

Excluding other causes than the anesthetic, chloroform was responsible for more than one case of danger in every 200 administrations, ether for less than one in 1,500, gas and ether for less than one in 1,000. One conclusion is that a mixture containing chloroform should not be administered by means of a closed inhaler. It is especially in cases of good general health that chloroform is so much more dangerous than other anesthetics while ether is singularly safe.

As the gravity of the patient's condition increases anesthetics become progressively more dangerous. The dangers of chloroform and ether are much alike in extreme conditions. The tendency for circulating complications to appear increases directly with the length of the administration and amount of chloroform employed. Respiratory complications are of equal frequency under ether and chloroform, but under the former are trifling and transitory; under the latter grave and persistent.

One of the objects of the Committee was to examine from a clinical standpoint the statement

of the Hyderabad Commission that chloroform has no direct action on the heart which has given rise to very heated controversy between pharmacologists and physiologists of such repute as Sir Lauder Brunton (who was a member of the Commission) and Dr. Leonard Hill. So far as clinical evidence goes this conclusion is repeatedly refuted. The Committee find that "when danger occurs under chloroform, whatever its exact nature may be, there is abundant evidence that in a large proportion of cases the symptoms are those of primary circulatory failure." Another conclusion is that by far the most important factor in the safety of anesthetics is the administrator; the greater his experience the safer the administration.

ECHOES AND NEWS.

NEW YORK.

Lectures on Toxic Neuroses.—Dr. T. D. Crothers of Hartford, Conn., will deliver a course of clinical lectures "On the Neuroses and Psychoses of Spirit and Drug Diseases" at the hall of the New York School of Clinical Medicine, 328 West 42d Street, New York City. The first lecture will be given February 18th at 8 p. m. The profession is cordially invited to attend.

Harvard Medical Society of New York City.—At the last meeting of the Society, held at the University Club, the following officers were elected for the year 1901: President, Dr. Howard Linenthal; Vice-President, Dr. Theodore W. Dunham; Secretary, Dr. J. Hilton Waterman; Treasurer, Dr. Joseph Kenefick.

State Death-Rate.—The number of deaths from all causes reported for the year to the State Board of Health is 128,468. This exceeds the mortality of 1899 by 6,647 and the average of the past five years by 8,000. Besides these reported deaths there were 1,600 returned too late for report, making the death-rate for the year 18.5. The increase over last year is largest in the maritime district, where there were 5,600 more deaths than in 1899. The infant mortality was 4,000 greater than last year, but the percentage of deaths under five years is the average of past years. Typhoid fever was unusually prevalent in the autumn, causing 1,948 deaths, 350 above the average. Measles prevailed to excess in all parts of the State, the 1,333 deaths being 300 above the average. Scarlet fever was less than usually prevalent. Diphtheria had a mortality 500 below the average. Smallpox was brought from outside to seventeen places during the first half of the year, without spread. From August to November the State was free from it; then a traveling minstrel troupe left it at three localities in the eastern part of the State, whence it

spread. Of fourteen deaths, four have occurred outside New York City. The grip epidemic of the year was unusually severe, and probably added 1,500 to the number of deaths.

New Dobbs Ferry Hospital.—The Dobbs Ferry Hospital Association has decided to have a hospital which will be an architectural ornament to the village. It will, probably, be of one story only, built of brick.

Cancer Home for Men.—An attempt is to be made to secure funds by which the ministrations some time exercised by St. Rose's Free Home for Incurable Cancer, but only for women, may be extended to the cases of destitute men. It is intended to establish a second home near the first, in Cherry Street, the new one to be under the supervision of the Dominican Sisters, and to be known as St. Joseph's Home. The sum of \$40,000 is needed, and George Warrington Curtis has given \$2,000.

PHILADELPHIA.

Pennsylvania Raises Medical Standard.—The University of Pennsylvania, at the beginning of the present school year, adopted a curriculum embodying four years of exclusively medical study. This new curriculum has just been adopted by the State Medical Council, at its winter meeting, as the standard for Pennsylvania. Under this new standard it is impossible for an unfit man to secure the right to practise medicine in the State.

Compulsory Vaccination.—The case of Charles J. Field against the Principal of Keystone Public School, has been appealed to the Supreme Court, the lower Court having sustained the teacher who refused admittance to the daughter of Mr. Field, she not having been vaccinated. Decision of the Court is reserved. The Anti-Compulsory Vaccination League has sent to Harrisburg a petition for the repeal of the objectionable features of the law.

Appointment of Dr. McFarland.—Dr. Joseph F. McFarland has been chosen by the well-known firm of Parke, Davis and Company as pathologist and bacteriologist.

County Medical Society.—At the meeting of January 23d, Dr. Albert E. Roussel reported three cases of malignant endocarditis, one following measles, a second following a typical attack of typhoid fever, and a third terminating in recovery. The second case, owing to enlargement of the spleen and superficial glands and the condition of the blood, simulated leucemia. Recovery in the third case would seem to throw doubt on the diagnosis, but several facts were regarded as proof of its existence, *viz.*: The patient had shortly before been accepted for life insurance; the blood, as well as numerous abscesses contained streptococci; lesions of the heart have persisted, as proven by murmurs. Dr. J. M. Anders stated that visceral and cutaneous embolisms were the most important diagnostic points in the disease. Dr. John B.

Roberts reported two cases of epiploectomy for cirrhosis of the liver. Both patients died, one in six months, the other the day following operation. The true value of this procedure has not yet been determined, but as it is a trivial one Dr. Roberts believes it should be done as soon as the diagnosis is made. The technic he employs is as follows: An incision through the abdominal wall above the umbilicus is made under local anesthesia. A finger is introduced and the omentum held against the abdominal wall. Sutures of chromicized catgut are then passed by means of a long, curved needle which enters the skin, passes through the abdominal parietes and omentum and emerges through the skin about one inch from the point of entrance. The omentum should also be anchored in the abdominal incision when it is closed.

Officers of the Society for the ensuing year are: President, Dr. Geo. Eretz Shoemaker; Vice-Presidents, Drs. Thos. H. Fenton and Francis Perkins; Secretary, Dr. Elwood R. Kirby; Treasurer, Dr. C. L. Bower; Censor, Dr. Frederick P. Henry.

Symposium on Brain Tumors.—Tumors of the Brain was the subject of discussion at the meeting of the Neurological Society, January 28th. Drs. Wharton Sinkler, F. X. Dercum, J. K. Mitchell, W. G. Spiller, and C. K. Mills reported cases. Dr. Sinkler called attention to the close resemblance in some cases of the symptoms of paresis to those of brain tumor. Dr. Mills spoke of localizing symptoms in tumors of the parietal and prefrontal regions. Great importance is placed on the occurrence of the sensory symptoms before motor manifestations present themselves. In the discussion Dr. W. W. Keen spoke of the amount of injury to the brain that was inflicted in some cases. In a recent case the lateral ventricle was opened. The early recovery of motor function is noticeable, in the case mentioned the boy moving his arm and leg in forty-eight hours. One surgical problem to solve is whether to close the wound and run the risk of hemorrhage, one patient dying from this, or drain and probably have a fungus cerebri result. In the last case operated upon he left gauze drainage in for only twenty-four hours, yet a fungus cerebri is threatened. This, however, is more readily dealt with than is hemorrhage.

New Medical Journal.—It is stated that subscriptions to the stock of a new medical journal, to be owned entirely by members of the profession and edited by Dr. Geo. M. Gould, have been unexpectedly great and now ensure the founding of the journal. It will be known as *American Medicine*, and it is expected that the first number will appear during March.

CHICAGO

The Giving of Commissions and Division of Fees.—At a recent meeting of the Chicago Medical Society, held January 23d, the following resolutions which are of great interest to the profession, were presented: "Whereas, It is commonly

reported that some consultants and operators are in the habit of compounding fees; and, *Whereas*, The giving of commissions or a part of the fees by physicians or surgeons to any other person is detrimental to the good name of the profession and reduces the practice of medicine to the lowest commercial basis: (1) Because it is in effect the employment of an individual drummer for personal advertising; (2) because it in effect promotes one's personal gains at the expense of other well-qualified physicians by an underhanded method of cutting fees; and (3) because it is in effect the practising of a confidence game upon the patient; therefore, be it *Resolved*, That this course is considered dishonorable by this Society, and shall subject any member practising it to expulsion. *Resolved*, That every member knowing or hearing of any member of the Society violating the spirit of this resolution, is hereby earnestly requested to report the same to the Committee on Judiciary, in writing, with the fullest possible circumstantial statements, to the end that the facts or rumors may be thoroughly investigated for the benefit of the accused and for the benefit of the Society. *Resolved*, That it shall be the duty of the Committee to employ every means in its power to ascertain the facts in the case; that it shall notify the accused of the charges; and shall give him every facility to explain the matter, and that it shall report its findings to this Society as soon as practicable. *Resolved*, That the wilful violation of the spirit of these resolutions after this date shall be a good and sufficient cause for expulsion from this Society, and that upon the report of the Committee upon any case a three-fourths vote of the members present, by secret ballot, shall determine the action of the Society.

Dr. J. B. Murphy endorsed the resolutions strongly. Dr. Harold N. Moyer said the sentiments of the resolutions were his own, but he felt sure that nobody in the Society would divide a surgical fee, and it was unnecessary to establish such a ruling. He was willing to recommend against the practice, but not to legislate upon it as penal in the professional code. His midway position brought the opposition from under cover. Dr. William E. Quine, although a signer of the resolutions as presented, became the champion of the general practitioner, and it is said he opposed the measure in vigorous terms as hypocritical and unjust. He is reported to have spoken as follows: "I have never taken a part of any surgeon's fee who has operated upon cases at my instance, but in the future I propose to do so. I now recognize that the matter has come to a well-defined issue and has got to be settled and, I think, in favor of giving the consultant a consideration which now is usually denied him. I think it just he should have a share of the surgeon's fee in many instances. I attended one entire family twenty years through all the vicissitudes consequent upon births, fevers, and the rounds of pains and ailments from childhood to age. Finally, one member of the household developed appendicitis. I diagnosed the case and called in a surgeon. He

got for that one operation \$2,500, more than I have received before and since for my twenty years of service. I say that is not right. I now consider I was entitled to a part of the fee for my services in the case. In the future I will demand a consideration under such circumstances." The remarks of Dr. Quine elicited loud and prolonged applause. After considerable discussion, participated in by various members, for and against the resolutions, on motion they were referred to a committee composed of Drs. James H. Stowell, L. L. McArthur, N. S. Davis, Jr., Frank Billings and John B. Murphy. It is expected that the Committee will report at an early subsequent meeting.

Apropos of these resolution, the *Chicago Times-Herald*, in its issue of January 25th, publishes an editorial, a part of which we quote: "The surgeon as a preacher of ethics, as a stickler for the good name of the profession, as a contemner of the drummer and the 'commercial basis' is a sight to make gods and men weep or swear. A hint of his fitness for this role was conveyed in the declaration of Dr. Quine that the single fee of a surgeon for an operation on one of his patients amounted to more than all the fees he himself had received from that patient's family, though he had been the family physician for twenty years. The amount was \$2,500, and it is \$2,500 to \$500 that the services were not worth the sum last named.

"Commercial basis! We have heard of a surgeon's fee recently which was large enough to constitute a very considerable mortgage on the property of the patient against whom it was charged. It was preposterous by comparison with the work done, outrageous in consideration of the victim's ability to pay. No, the basis was not commercial, it was 'banditical,' so to speak, and the scalpel was its very proper symbol. The doctor who acts as a drummer for surgeons is *particeps criminis*, and between the two the word 'operation' has come to be repeated with a sinister monotony. An honorable doctor may grumble at the surgeon's fee, but he will have no division. In every necessary case whatever pay is given should go to the man who performs the work."

Dr. Quine says that he has been misquoted in relation to this question, probably because he himself did not state his position very clearly in the debate.

The position of Dr. G. Frank Lydston on this subject is very timely and unmistakable. He says: "If the practice of medicine is merely a trade, it is time the fact was understood. Reputable physicians are supposed to be on the same professional plane. If one man regards his practice as a trade and acts accordingly while another regards it as a noble profession, the two are widely apart and should not, even theoretically, occupy the same plane. If the paying and receiving of commissions by physicians is right, then all of our claims to recognition as a learned profession should be thrown to the winds. A profession which ostracizes a doctor who advertises in the newspapers, yet fraternally recognizes a man who

gives and receives commissions for steering cases to him is a spectacle for gods and men. Suppose, for the sake of illustration, that the family physician should refer you to me for the performance of an operation; I perform it, and, if you are a man of means, I charge you \$1,000 for it. You subsequently ascertain that \$500 of this was surreptitiously paid by me to your family physician. Would you not doubt the honesty of the whole transaction? Would you not wonder whether your doctor had referred you to me for your own good or for what there was in it? Would you not wonder whether the operation was really necessary or not?"

Resolutions Condemning the Giving of Division of Fees.—The Committee to which were referred the resolutions introduced at a meeting of the Chicago Medical Society on January 23d made the following report at a meeting held January 30th: *Resolved*, That the offering or giving of a commission, or percentage of a fee, by the consulting physician or operating surgeon, or the asking or receiving of such a fee or commission in any guise whatsoever by the physician referring the case, is dishonest, disreputable and unethical, unless such an arrangement be made with the full knowledge of the patient. *Resolved*, Further, That a violation of this resolution shall subject the offender to expulsion from the Society. These resolutions were unanimously adopted by a rising vote. Dr. Archibald Church introduced the following resolution: That it be the sense of the Society, that the fees ordinarily received by the attending physician in connection with cases requiring surgical operations in common practice are not adequate, and that the physician should have the support of the Society to increase his charges under such circumstances. This resolution was likewise adopted.

County Hospital Medical and Surgical Staffs.—President Hanberg recently submitted a recommendation to increase the number of internes at the County Hospital to 39, of whom 27 shall belong to the regular school, 7 to the homeopathic, and 5 to the electric. He urged also that the hospital staff be divided into three classes, to be known as the attending staff, the associate attending staff, and the advisory staff. The associate attending staff is to furnish substitutes for the attending staff, while the advisory staff is not to be called upon unless the work becomes too great for both of the other staffs to attend to properly. The list of appointees is as follows: *Surgeons*, Drs. J. B. Murphy, T. A. Davis, Denslow Lewis, F. S. Hartmann, Charles G. Swan, John Leeming, E. L. Moorhead, A. I. Bouffleur, Leonard St. John, S. L. Weber, J. W. Tope, Charles Davison, C. P. Springfield, Weller Van Hook, Daniel H. Williams, F. W. McNamara, Aime P. Heineck, O. W. MacKellar, D. N. Eisendrath, W. E. Schroeder, Frank Byrnes, G. Seim, A. E. Halstead, W. A. Kuflewski, J. P. Webster, H. R. Hammond, R. A. Letourneau, T. J. Conley, and M. J. Kearsley. *Attending Physicians*, Drs. Frank Billings, Arthur R. Edwards, James B. Her-

rick, Chas. C. O'Byrne, E. Fletcher Ingals, William E. Quine, B. M. Linnell, John A. Robison, Florence Hunt, T. A. Noble, J. F. Dolamore, and A. E. Price. *Pathologists*, Drs. L. Hektoen, and W. A. Evans. *Dermatologists*, Drs. L. Blake Baldwin and M. B. Sincere. *Obstetricians*, Drs. Effie L. Lobdell and Frank B. Earle. *Diseases of Children*, Drs. F. S. Churchill, Josephine A. Jackson, Wm. J. Butler, and Isaac Abt. *Ophthalmologists*, Drs. Allen T. Haight and J. C. Huizinga. *Nervous Diseases*, Drs. Sanger Brown and D. R. Brower. *Dental Surgeon*, Dr. Hart J. Goslee.

Chicago Medical Examiners' Association.—At its January meeting the following officers were elected: President, Dr. Denslow Lewis; Vice-President, Dr. James E. Stubbs; Secretary, Dr. James H. Stowell; Treasurer, Dr. J. Homer Coulter.

Three Cases of Acromegaly.—At the meeting of the Chicago Neurological Society, held January 11th, Dr. Sydney Kuh reported three cases of acromegaly treated with pituitary bodies. In the first case the existing headache and mental depression seemed somewhat relieved, while in the other two cases the patients were benefited to a more marked degree; headache, vertigo, general weakness, hyperidrosis and projectile vomiting ceased, and in one instance trophic disturbances in the nails of the hands showed well-marked changes for the better. In the third case cramps in the calves of the legs appeared after the patient had been under treatment for nearly one and a half years and the woman became very much depressed mentally. The essayist said that he did not believe the results to be due to suggestion only. He believes that the disease of the pituitary body is the cause of acromegaly. In every case of this malady in which a thorough postmortem examination was made, the gland was found to be affected not only in man, but also in the one case known to have occurred in an animal. There is a good deal of evidence to show that the hypophysis exerts some influence upon our physical development, that it may not only cause acromegaly, but under certain conditions the opposite condition, stunted growth.

Internes in Asylums.—Four of the city medical societies have passed resolutions recommending the selection of at least four medical internes for each of the State hospitals for the insane; that such internes shall be selected by competitive examinations from the graduates of the medical colleges in the State, recognized by the State Board of Health; that they shall serve for one year, and receive as compensation lodging, board, washing, and \$100 at the expiration of their term of service, and that the professors of nervous and mental diseases of the five medical colleges having the largest number of students in attendance shall be the examiners to select these internes.

Professional and Unprofessional Advertising.—This subject was dealt with by Dr. G. Frank Lydston at the Physicians' Club of Chicago. This paper will appear in the MEDICAL NEWS.

Practice of Medicine as a Source of Income.

—Dr. A. K. Steele read a paper on this subject, in which he said that there is a vast amount of ignorance on the part of the public, and of the profession as well, which is usually rudely dispelled when the dead doctor's will is made public in the Probate Court, and general surprise is expressed that Dr. A., who was reputed to have an income of from \$20,000 to \$30,000 a year, left his family only a ten-thousand-dollar estate, and had allowed his life insurance to lapse a few months before his death. The speaker said he had taken pains to ascertain the average income of doctors from their practice, and he is firmly convinced that professional incomes are greatly over-estimated. The expenses of the physician keep pace with his increasing business. Larger incomes demand better offices, a finer house, more servants, more social duties, and at the end of the year the balance sheet shows very little on the side of net profit. The two- to three-dollar visit, the five- to twenty-five-dollar consultation, the ten- to thirty-dollar case of obstetrics, and the larger fees provided for operative work in the fee table do not insure large incomes for many in the profession. The first five or ten years' practice is usually a struggle for existence; the second ten years' a competency, or good living, and during the third ten years the physician is likely to be crowded out by the younger and more progressive element. He said one could count on the fingers of one hand the practitioners in Chicago whose incomes from practice exceeded \$30,000 per annum, and probably not more than a score exceeded \$20,000 per annum. The income of the average practitioner varies from \$1,500 to \$3,000 per annum. Office specialists—eye and ear, nose and throat—average \$2,000 to \$6,000; consulting physicians, \$5,000 to \$15,000; six leading physicians, \$15,000 to \$35,000; six leading surgeons, \$20,000 to \$60,000; six leading gynecologists, \$10,000 to \$20,000; six leading office specialists, \$10,000 to \$15,000; average surgeons, \$3,000 to \$10,000. One's income may be enhanced in a variety of ways, as, for example, increasing his reputation by original work; by essays and discussions in medical societies; by affiliation with medical colleges in a teaching capacity; by becoming attached to the staff of a reputable hospital; by caring for the sick or injured of a corporation; by making life-insurance examinations. It is perfectly legitimate to build up a practice in this way. Practice may be increased illegitimately by criminal curettes, by unnecessary operating, by useless visits, by exploiting cases in the public newspapers, by specialists' reprints for patients, by lending one's name to endorsement of proprietary remedies, etc.

Legitimate and Illegitimate Fees.—This phase of the subject was discussed by Dr. A. J. Ochsner. Dr. A. H. Ferguson offered the following resolution, which was adopted: *Resolved*, That the Physicians' Club of Chicago most severely condemns the asking for or the receiving of a commission or part of a consultation or

operation fee, as well as the offering or giving of a commission, or a part of a fee, as practices highly dishonorable and detrimental to the best interests of the medical profession.

Organization of the Cook County Hospital Staff.—At the annual meeting of the Cook County Hospital staff, held January 31st, Dr. Denslow Lewis was re-elected President, and Dr. L. Blake Baldwin was re-elected Secretary. The following executive committee was appointed by the President: Drs. Arthur R. Edwards, James B. Herrick, William E. Quine, J. P. Webster, C. P. Swan, O. W. MacKellar, and M. J. Kearsley.

Railroad Surgeon.—Dr. W. H. Hutchings of Ann Arbor, Michigan, has been appointed Chief Surgeon of Ann Arbor Railroad to succeed Dr. W. J. Herdman.

GENERAL.

Medical Examination Before Marriage.—A marriage license bill was introduced in the Wisconsin Senate January 16th which promises to eclipse the marriage law of 1899. This bill provides that no persons can marry who are suffering from true or hereditary insanity, insanity caused by vicious habits or the use of drugs, consumption and various other diseases which are named in the bill. Every person who wishes to marry is required to go before an examining board of three surgeons to be appointed in each county of the State by the county Judge, and must pass an examination before a marriage license can be issued to them. In addition all male candidates for matrimony who are under twenty-five years of age and all female candidates under eighteen years must produce a written consent of their parents before they can secure a license. Any clergyman, Justice of the Peace or other person who can perform marriages and who marries any couples who do not produce a certificate from the examining physicians of his county is to be fined not more than \$500 or confined in prison not more than one year.

Plague at Cardiff.—It is officially certified that a mill worker at Cardiff, Wales, is suffering with bubonic plague. Another mill-hand is suspected of having the disease.

Plague at Constantinople.—Advices from the Marine Hospital Reports show that the plague has again broken out in this city.

St. Louis City Hospital Alumni.—At the annual meeting of the Medical Society of City Hospital Alumni, held December 20th, 1900, the following officers were elected for the ensuing year: President, Dr. Norvelle Wallace Sharpe; Vice-President, Dr. Francis L. Reder; Secretary, Dr. John Green, Jr.; Treasurer, Dr. Horace W. Soper.

Obituary.—Dr. Theodore De Clermont Miller died at his home, No. 49 West 117th Street, on Monday night last from pneumonia, after an illness of three days. Dr. Miller was fifty-nine

years old and had been a practising physician in this city for thirty-two years. He is survived by a widow and three children.

Dr. Frederick S. Nelson, of New Market, N. J., died Sunday last from pulmonary troubles. He was thirty-seven years old and was graduated from Rutgers College in 1882 and subsequently took a course at the University of the South, at Suwanee, Tenn.

Dr. Henry J. Herrick, a widely-known physician and surgeon of Cleveland, Ohio, died last week. He was for many years connected with the medical department of the Western Reserve University. He was a member of the Loyal Legion, and served as surgeon general of the Ohio National Guard during Governor Foraker's administration.

Dr. Henry F. Baxter, one of the best-known physicians in the southern section of Philadelphia, died February 1st after a prolonged illness. Dr. Baxter was a man of wide culture, both literary and scientific, and was prominent in local and national chess circles.

CORRESPONDENCE.

STATE MEDICINE BILL.

To the Editor of the MEDICAL NEWS:

DEAR SIR: The profession must know, of course, that a bill has been introduced in the Legislature of this State, the purpose of which is to enable those who are empowered to do so to enforce the medical laws. As at present interpreted these laws can only be enforced against illegal practitioners who give medicines. If a person desires to evade these laws all it is necessary to do is to adopt some peculiar name or title, as Christian Scientist, Osteopath, Hydropath, Faith-Curist, or even no name, refuse to give medicines or drugs, and, although he or she may treat disease, there has been, as yet, no lawyer who will advise action against such an illegal practitioner. The law as at present enforced is an incentive to uneducated people to adopt some of these peculiar names or methods, and they can prey upon the community with impunity and without molestation.

The bill under consideration was objected to in the beginning by manufacturers of proprietary articles, opticians, and others, who claimed that its enactment would prevent a person recommending a friend to take a dose of pepsin, or some equally simple remedy, and would interfere with the sale of patented articles and in this way interfere with the newspapers advertising such articles.

The framers of the bill had no such intention in drawing this measure, and agreed to alter its phraseology. This has been done and as the bill reads now, it declares that any person shall be regarded as practising medicine who shall give treatment to any other person, by any method whatsoever, for the relief or cure of disease, ex-

cepting in an emergency. There can be no valid objection to this bill on the part of patent-medicine manufacturers, wholesale or retail druggists, truss- or instrument-makers, or any other person who does not make a business of treating disease. Retail druggists have no right now to treat disease, except in an emergency, and this bill will not alter their position, or curtail their rights and privileges in any way. The legitimate business of the optician will not be interfered with in any way. This bill is designed to give an increased protection to the public, which is the only reason for the existence of any medical laws.

Christian Scientists, Osteopaths, and others will have to comply with the law, after which they can continue their peculiar methods if they can find any person who believes in them, or if they believe in them themselves, after they have been taught to discriminate. There is no desire to interfere with free thought or religious liberty. There is no desire to prevent any person practising any method their intelligence tells them is the best method. We only insist that every person who treats disease shall demonstrate to the State Board of Medical Examiners their ability to tell whether a disease exists, how to differentiate the disease which may exist, and then the matter of treatment must be left to individual judgment.

The battle is on and will be won by those who believe in protecting the community, if all who so believe will write to Hon. Nelson H. Henry, Chairman of the Assembly Committee on Public Health, giving their names and addresses, and urging the enactment of the bill. Will you not urge your readers to do this?

FRANK VAN FLEET, M.D.,
Chairman, Committee on Legislation, Medical Society of the State of New York.

New York February 2, 1901.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, January 26, 1901.

THE EPIDEMIC OF ARSENICAL POISONING FROM BEER-DRINKING—APPOINTMENT OF A ROYAL COMMISSION—HOW THE CAUSE OF THE EPIDEMIC WAS DISCOVERED BY DR. REYNOLDS—SOME OF ITS FEATURES—ARSENICAL POISON IN LIVERPOOL—DEATH FROM DIVER'S PARALYSIS—INCREASE OF LUNACY IN THE UNITED KINGDOM—THE PREPARATIONS FOR THE COMING CENSUS—DEATH DURING TOOTH-EXTRACTION UNDER NITROUS OXIDE AND ETHER FROM IMPACTION OF A PIECE OF SPONGE IN THE LARYNX—THE DANGER OF THE ADMINISTRATION OF ANESTHETICS BY DENTISTS.

A ROYAL COMMISSION has been appointed by the Government to investigate the epidemic of arsenical poisoning due to beer-drinking. The Commissioners are Lord Kelvin, Sir W. Hart Dyke, Sir W. S. Church (President of the Royal College of Physicians), Prof. T. E. Thorpe (Government Analyst), Mr. H. Cosmo Bonsor and Dr. B. A. Whitelegge (Chief Inspector of Factories). Dr. G. S. Buchanan, one of the Medical Inspec-

tors of the Local Government Board, is the secretary of the Commission. The instructions of the Commissioners are to ascertain: (1) The amount of recent exceptional sickness and death attributable to arsenical poisoning. (2) Whether it has been due to arsenic in beer or in other articles of diet. (3) In what way these articles became poisoned. (4) By what safeguards can such poisoning be prevented.

As to the manner in which the arsenic got into the beer the evidence given by the chairman of the company from which the firm who supplied the brewers with the contaminated sugars obtained sulphuric acid for the production of the latter from starch, is of interest. He said that his firm made the acid from pyrites. He had not the slightest idea what the sugar manufacturers wanted the acid for. He knew that acid made from pyrites frequently contained arsenic. They took measures to remove it, but sometimes they sold acid without doing so. The difference in price between arsenic-free sulphuric acid and non-free acid was only half a dollar per ton, sometimes less.

At the Royal Medical and Chirurgical Society Dr. Reynolds of Manchester, to whom is due the credit of discovering that arsenic in beer was the cause of the epidemic of peripheral neuritis in that town, read a most important paper. His attention was first drawn to the subject in June, 1899, when he noticed an unusual number of cases of skin eruption in the workhouse infirmary, amongst which were about six cases of erythromelalgia. Later he observed an unusual number of cases of peripheral neuritis. He then noticed that the eruptions (which included herpes) occurred in patients suffering from neuritis. Remembering that herpes might be produced by arsenic he suspected the beer, which was the apparent cause of the neuritis. Erythromelalgia—painful red swelling of the hands and feet—was perhaps the commonest eruption. The erythema was most intense at the edges, the center of the palms being almost exempt. The pain was so marked that the patients could not sleep. The red patches were followed by keratosis of the hands and feet, the scales being exfoliated so plentifully that a two-ounce bottle could be filled in a short time. This keratosis was a most important symptom in diagnosis, because fair-haired persons did not get pigmentation. There were also scarlatiniform and morbilliform eruptions. The mental condition was very peculiar, being characterized by loss of memory and power to initiate ideas. The heart was very seriously affected. It might become dilated with edema of the feet and of the chest wall. Death usually resulted from some form of cardiac failure. The urine in many cases contained arsenic, which could be found as long as two weeks after ceasing to take the contaminated beer. In some cases there was pyrexia.

In Liverpool the city analyst's report for the last quarter shows that of 298 samples of beer examined 25 contained a trace of arsenic; 20, a small quantity; 4, $1\frac{1}{2}$ grains per gallon; 2, $\frac{3}{4}$ grain

per gallon and 1, $\frac{1}{2}$ grain per gallon. Four more cases of arsenical poisoning were admitted to hospital in the last weeks.

A diver has met his death in sinking an artesian well for a London water company. He was a man, aged thirty-seven years, who went down three times into the well before dinner. After dinner he went down again and came up in a quarter of an hour. While his boots were being removed he complained of giddiness and became very pale. He was put into a warm bath. He soon became unconscious. A doctor who was called in found the man suffering from dyspnea, with dusky face. His pulse was rapid and feeble and his limbs were limp. He died the same night. The necropsy showed congestion of the spinal cord. The cause of death was the severe nervous disturbance caused by passage from a pressure of 3 atmospheres to the normal—diver's paralysis.

Dr. Stewart, Deputy Medical Superintendent of the Glamorgan County Asylums, maintains in a recent lecture that lunacy is increasing—a fact on which I have previously commented. In 1891 there were 136,000 lunatics in the United Kingdom, of which 106,000 were maintained in asylums at an annual cost of \$8,500,000. In 1859 there were 19 lunatics to every 10,000 people; in 1895, 40. Sixty people are now sent to asylums every day. The sanest country is England, then Scotland, then Ireland. Where there is chronic poverty, lunacy is greatest. It is remarkable that lunacy occurs chiefly in rural and agricultural districts, and still more so that the most drunken counties are the sanest. In different occupations the lunacy rate per 10,000 is as follows: Miners, 45; clergy and travelers, 12; farmers, 5; doctors, and charwomen, 15; domestic servants, 11.

Elaborate preparations have been made for the forthcoming census of the United Kingdom which will be taken on March 31st. These have been in progress more than a year. More than 2,000 local registrars have been appointed. Under each of these is a number of enumerators whose divisions are so planned that each includes about 300 families or 1,500 persons. In England and Wales, with a population of about 32,000,000, if each enumerator dealt with 1,000 persons, 32,000 would be required, but the cases of sparsely-populated parishes in which this number cannot be undertaken are so numerous that it is estimated that 40,000 enumerators will be required. After each registrar has completed his "plan" he will send it to a superintendent registrar. Of these there are 635. These officers after careful revision and correction will send the plans to the Government offices at Somerset House. Here they will again be subjected to a rigid examination in order to ascertain that each district is complete in itself, of suitable size, has no confusion of areas, and has a simple walking boundary which cannot be mistaken. The duty of the enumerator is to leave a schedule for every occupier of a house. On April 1st he will collect the schedules and help occupiers with advice. Be-

tween April 1st and 8th he has to copy every particular from the schedules into an enumeration book and to make certain summations. Between April 8th and 22d the registrars have to check and revise the work of the enumerators. The books will then be passed on to the superintendent registrars who have to satisfy themselves that the work has been properly done, and forward the books to the Census Office by April 27th. The headquarters staff will amount to 200 and will consist of civil-service clerks.

A unfortunate fatality has occurred during the administration of an anesthetic by a dentist. A healthy miner went to have eleven teeth extracted. The dentist administered nitrous oxide and ether, a nurse only being present. The teeth were successfully removed and sponges without attachment outside the mouth were used to press on the gums to check hemorrhage. The man sat listlessly in the chair for two or three minutes after the operation, then sprang to his feet, drew a deep breath, and gasped for air. As signs of asphyxia were evident, the dentist felt digitally for an obstruction and finding none commenced artificial respiration. Death ensued. At the necropsy a piece of sponge was found below the vocal cords. Commenting on this case *The Lancet* insists on the desirability of two medical men being present even when only a trifling operation has to be performed under an anesthetic. When the operator is a dentist it is even more necessary that a doctor should give the anesthetic. Further, in every case in which an anesthetic is given tracheotomy or some other operation of emergency may be necessary. A dentist is not competent to perform such. Hence a medical man should always be present. Tracheotomy might have saved life in this case.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

ETIOLOGY OF CARCINOMA—GONORRHEAL ARTHRITIS—TRAUMATIC CARDIAC DILATATION—POSTOPERATIVE TETANUS—TRAUMATIC LACERATION OF THE CARDIAC VALVES—METHYL BLUE AND RENAL ACTIVITY—MYELOMA AND ALBUMOSURIA—REYNAUD'S DISEASE—COMPENSATION IN ATAXIA—RUPTURE OF THE SPLEEN—ALBUMIN AND ACETONE—LUMBAR HERNIA—HYPOPHYSIS CEREBRI AND ACROMEGALY—SEQUELÆ OF PERTUSSIS—NASAL POLYPI AND THEIR EFFECT ON THE NASAL BONES—OBTURATORS AND THE ANTRUM OF HIGHMORE—ACUTE GONORRHEAL MYELITIS.

VON LEYDEN, at the Gesellschaft der Charité-Aerzte in Berlin, November 8, 1900, exhibited various preparations and specimens of carcinoma and discussed the germ-theory of the cause of these neoplasms. The establishment of such a hypothesis rests on the results of inoculation (Klebs, Hanan and others) and on the discovery of a microscopical parasite. The latter point has already been carefully studied, as, for example, by Scheullen, Schueller, Leopold (Blastomycetes) and by the author himself, who, in an example of carcinoma of the abdomen, in the ascitic fluid found moving

cells with active processes which in common with Schaudin he considers amebæ. His experiments to obtain cultures from sections of the neoplasm have given no satisfactory results, beyond affording a good opportunity of studying the amebæ. From the type of movement and from the peculiarities of the pulsation of the vacuole they present no diagnostic features, but they appear to be definitely recognizable from their nuclei which may be compared to a bird's eye, through having a dark central spot surrounded by a bright band and then by a dark band. These amebæ are without demonstrable capsules, but lie as naked masses in the protoplasm of the cells, from which they are with great difficulty distinguishable. The author claims that through fixation, oxidation with peroxide of hydrogen, staining with saffranin, methyl violet and orange G., he has been able to prove the presence of these amebæ in the cells of carcinoma also. They are analogous to the sporozoa (plasmodiophora) discovered by Russian investigation as causing various conditions in the cabbage, and they occur in the cell-bodies close to the nucleus which itself shows no evidence of degeneration or division. From the pictures presented by various preparations, which he claims are ameba-like protozoa, he seeks to make them analogous to the plasmodiophora and regards them as the cause of cancer.

LAQUEUR, at the meeting of November 22d, brought forward a young girl with gonorrhreal arthritis of the right elbow. In the exudate many cocci were found. Rapid cure followed faithful use of the hot-air bath method.

STRAUSS reported a case of a young adult who in 1900 passed through an attack of the grip and soon after that received a trauma in the cardiac region, promptly followed by considerable dilatation of the heart, especially to the left. Bodily exertion increased it. The chief symptom was dyspnea. The valves were intact. In the discussion Brandenburg spoke of one of his patients who went through a similar experience with a cardiac neurosis. Oestreich considered it would be difficult to demonstrate a direct connection between the trauma and the cardiac lesion.

MENZER gave notes on a case of tetanus after a gynecological operation. A vaginofixation, notwithstanding most careful preliminary and operative antisepsis, was followed in seven days by a fatal tetanus. In the secretion of the wound the bacilli of tetanus were abundant. Blumenthal, discussing the subject, advocated the regular injection of anti-tetanic blood-serum before every operation upon the female genitals. In the French colonial forces such prophylactic procedure among the wounded had proved very efficacious. Jacob added that dural infusion is better than the subcutaneous.

F. STRASSMANN, at the Verein für innere Medizin in Berlin, November 19th, detailed the autopsy of a case of traumatic laceration of one of the aortic valve cusps. R. Stern recently stated in his new work that well-established cases of traumatic tears in the valves of the heart are not known, whereas

the French authors state just the opposite. Moreover they teach that compensation for the error due to the valve leakage can scarcely occur and that therefore death usually follows very soon upon the lesion. Therefore any case of proved traumatic damage to the valves is of great value. In this instance it is a pity that more is not known of the course of the condition. The patient was a hostler, sixty-five years old, always in very good health, without known cardiac trouble, and able to care for a stable of sixteen horses. On November 24, 1899, he was kicked in the chest and in the left forearm by one of the animals. Two months later his physician discovered an insufficiency of the aortic valves, which he attributed at once to the accident; but on consultation it was decided that it was due to the lighting-up of an old endarteritis. On March 24, 1900, he died. An inquest showed a break in the ribs over the right chest and its cardiac area where the cartilages join the ribs. The two leaves of the pericardium were fully adherent. The heart, especially to the left, was much enlarged. In the first part of the aorta was a transverse tear about two centimeters long, corresponding with the situs of the valves, and involving the intima completely and the media partially. In the valve cusp, over this tear, was a laceration which extended from one border to the base and turning angularly upon itself almost to the other border. There were no other changes in this or the other cusps, except that the one next over the wound in the vessel-wall was slightly adherent to the damaged valve curtain. The aorta was very little sclerosed. The blood-pressure had not been enough to cause a dissecting aneurism. A hernia in the abdominal wall also seemed to have been caused by this trauma.

FRAENKEL stated in the discussion that R. Stern's position is surely not tenable, because he had himself seen a case like the above and another in which the aorta was torn off short.

LIPPMAN-WULF gave the results of his experiments with methyl blue as an index of the activity of the kidney function. He followed the plan of the French who had sought to establish the fact that the rate of excretion of the blue in the urine, after hypodermic exhibition, is the guide to the health of the organs. P. Ehrlich has recently shown that a certain proportion of the coloring matter is changed in the body to methyl white. With this observation the author agrees and concludes that the method is not at all reliable as showing the state of the kidneys.

KALISCHER, at the meeting of November 26th, presented the ribs of a woman dead of myeloma and albumosuria. She was sixty-two years old and had been sick for about sixteen months. One of four daughters had died of pernicious anemia. The onset was with pain in the left, later the right side too, at first spasmodic like neuralgia, later continuous. Diagnosis, hysteria. The pains increased. For a year she had been confined to the house and for three months to bed. Albuminuria was now present. At this time Kalischer first saw her and found tenderness along the lower rib and con-

cluded that he was dealing with some hysterical or neurasthenic manifestation. Continued emaciation and prostration were apparent. Further test of the urine showed that it contained albumose, namely, that the cloudiness or precipitate on boiling disappeared if boiled still more. Then another examination of the ribs showed that the ribs were soft, unduly bendable and prominent, and that the scapulae and sternum were thickened. Blood tests showed a slight leucocytosis, nothing else. A partial section revealed prominence of the ribs, thinning of their walls, increase of their medullary canal, red marrow of semifluid consistence and inclined to flow out of the medullary space. The ribs were broken in several places. The medulla of the right humerus was normal. Microscopically the costal marrow showed only increase in the colorless elements, such as occur in myeloma. The nervous symptoms appear to have been analogous to those in carcinosis, by irritation.

LIPPmann exhibited two cases of symmetrical gangrene (Reynaud). A servant-girl who was much engaged in washing and in hanging out the clothes plunged her hands into hot water while they were thoroughly chilled. Since that time cold has been well nigh unbearable, because her hands became at first livid, then blue and very painful. Occasionally small parts are cast off without secretion. The fingers are shortened, thickened, nails flat, sclerosis marked, and full flexion impossible. Röntgen rays show bone-atrophy which is most marked in the first phalanges which have nearly disappeared. The other case concerned a fifty-four-year-old woman with considerable dulling of the mental faculties, all the senses are decreased. Onset about nine months ago. This year an isolated gangrene of one finger appeared with loss of the first phalanx. This was attributed by the patient to trauma while chopping wood.

BICKEL detailed his instructive experiments on dogs as to the compensation of the brain in sensory ataxia, which he made in collaboration with P. Jakob. Ataxia can be produced in dogs by division of the posterior nerve-roots (Leyden) and thereafter follows a muscular degeneration. Improvement in such conditions occurs as has been proved by Merzbacher, apparently because the other intact brain organs have an influence upon the extremities. To such belongs the Labyrinth, as the physiologist Ewald has shown (*Ewald's labyrinthon*). The author has himself found that if in dogs, which have had ataxia produced by cutting off the posterior nerve-roots and have then reached the stage of compensation and partial recovery, the labyrinth is extirpated, a recurrence of the ataxia appears, which is then irremediable. In a similar way other parts of the brain can act as substitutes, as, for example, the eye and certain parts of the sensory element of the brain itself, notably the sensory convolutions of the cortex, and perhaps the optic thalamus, corpora quadrigemina and cerebellum. The possibilities of the compensatory influence of the sensory cortical cells, the author in company with Jakob investigated also in dogs. They produced ataxia of the hind legs by

the same method as above, namely, in the spinal canal, and then of the front legs by cutting out the appropriate regions of the brain itself. After some improvement in the former had begun. In this way various differences were noted. The discussion of this paper was postponed.

KAREWSKY, at the meeting of December 3d, presented a twelve-year-old girl who a year ago was crushed against a wall by a wagon and sustained thereby fracture of several ribs and peritonitis, supposed to have been due to rupture of the intestines. Conservative treatment was followed and cure apparently reached. About twelve days after her discharge she again was taken sick with left-sided abdominal pain, tenderness and swelling, with fever. All symptoms and signs pointed to a subphrenic abscess and exploration evacuated a large, foul focus in which was found the spleen ruptured entirely out of its capsule. It was thereupon ablated. Cure followed. Present examination of the blood was negative. No investigations of it had been done before.

VON LEYDEN exhibited the heart of a girl suddenly dead after diphtheria. In addition to the degenerations usually present in these cases, there were thrombi scattered through its walls and an embolus in the pulmonary artery.

F. BLUMENTHAL and C. NEUBERG contributed an instructive fact to the much vexed question as to whether in diabetes, carcinoma, starvation and other conditions, the acetone present cannot have its origin in albumin. These investigators have been able to make acetone out of egg-albumin experimentally. Salts of iron were the containers of the oxygen and peroxide of hydrogen was the actual source of it.

M. G. BORCHARDT, at the Berliner Medicinische Gesellschaft, November 29th, presented a fifteen-month-old child with well-developed lumbar hernia. Of this rare condition forty-seven have been reported in literature. Their exit is usually through the trigonum Petit, through the trigonum lumbale superius, and occasionally through other weak spots of the parietes. In the etiology traumatism plays a very important part, then pus foci, especially gravitation abscesses, and, finally, congenital defects. Seven examples of the last-named cause are on record and this makes the eighth. The child presented a large lateral swelling of variable size, but usually that of a child's head, impulse on coughing marked, completely reducible, but presenting no real hernia ring. Its contents were intestine, spleen and the left kidney. At first the mistaken diagnosis of a cold abscess was made, but the child contracted a marked bronchitis which through the incessant cough revealed the true nature of the condition. Immediate operation was contra-indicated, first because of the bad cough and second because the child is so feeble. A reduction and suitable bandage were the present treatment. Operation will be done in a few years.

C. BENDA, in discussing the connection between lesions of the hypophysis cerebri and such diseases as cretinism and acromegaly, stated that he

had examined its normal and pathological anatomy at length. By means of new staining methods he has discovered small granules in the cell bodies of the organ, which hitherto have not been described. In a case of cretinism he has found a decrease in the number of these bodies and a somewhat similar condition in Basedow's disease. In the brain of a dwarf he found a teratoma which occupied the sella turcica and invaded the hypophysis. In four patients with acromegaly he found profound changes in the hypophysis, once an angioma and three times tumor-like aggregations of these highly granular cells. It appears to him that there is direct connection between the lesions of this cerebral organ and acromegaly.

ARNHEIM, at the meeting of December 5th, described a case of pertussis in a child, four years old, which in its course developed stiffness of the neck, fever, rigidity of the extremities, numbness and slowing of the pulse. These could not be connected with a contemporary chronic otitis media purulenta with perforation, and were therefore attributable to the pertussis. After the period of fever had disappeared and consciousness had been recovered, there remained a slight degree of paresis in each of the extremities. This improved somewhat until now there are distinguishable a very moderate ataxia and disturbance of the speech. The contributor holds that this is an analogue of the paresis and paralysis seen in severe diphtheria, due to toxins.

TREITEL showed a man in whom the nasal bones were much spread apart and everted, through the presence of abundant, dense nasal polypi.

P. HEYMANN displayed an obturator which, after the evacuation, drainage and cure of an empyema of the antrum of Highmore, had been applied to close over the operation wound. The result was that a most foul empyema occurred much worse than the first. Hence such devices are dangerous.

VON RAD, at the Aerztlicher Verein in Nürnberg, March 15th, gave the following outline of a case of acute gonorrhreal myositis recently observed by him. The man was thirty-two years old, suffering from a chronic gleét and had had a soft chancre when he was infected with an unusually violent and virulent fresh attack of gonorrhea. After four days he was suddenly attacked with weakness of the lower extremities and very soon afterward with combined retention of urine and feces. November 19, 1899, physical examination revealed these conditions: Active pain, but only moderate tenderness from the fourth to the ninth dorsal vertebra; marked weakness in each lower extremity so that only with the greatest effort can the patient take a few steps and then falls; the reflexes of the soles and tendons of Achilles are normal, of the knees are much exaggerated, while those of the abdomen and cremasters are absent; the patellar clonus is absent on each side; sensory disturbances are slight, with no paresthesiae, but with moderate confusion between the point and the head of the pin; the bladder is very greatly

distended and paralysis of that viscus and of the rectum is well established; the pulse is normal; the temperature elevated; there are no disturbances of the upper extremities or of the cranial nerves. That same afternoon complete paralysis of the lower extremities set in which was proved on examination the next day. The reflexes at the knees and ankles and of the skin are abolished, except a very feeble plantar reaction; the pains in the back are absent, but severe paresthesiae have appeared; sensibility for the stroke of brush and needle is much disturbed; the zone of these disorders extends to about a handbreadth above the navel. Further were noted the persistent and absolute vesical and rectal paralysis, so that catheterism and enemas were absolutely necessary; the advent of a very active and obstinate cystitis, and of bedsores over the sacrum in spite of all care, of clonic spasms and tremors in the muscles followed by atrophy, and of the electrical reaction for degeneration. It was finally necessary to put the patient upon a water bed to keep the bed sores in check. Death followed early in 1900. No gonococci were found on lumbar puncture, but the onset makes it obvious that these germs were the source of the infection.

SOCIETY PROCEEDINGS

HARVARD MEDICAL SOCIETY OF NEW YORK CITY.

Stated Meeting, Held November 24, 1900.

Howard Lilenthal, M.D., Chairman *pro tem.*

Rapid Elimination of Gonococcus.—Dr. Follett Cabot read a paper describing a method for the rapid elimination of the gonococcus. He said that two things are of importance in the treatment of gonorrhea, the avoidance of complications and the elimination of the gonococcus. Much has been written and promised in recent years with regard to methods that cause an early disappearance of this micro-organism. All of the methods thus far presented seem, however, to induce complications because of a certain amount of violence that is exercised on the delicate mucous membrane of the urethra. Other methods have proved too gentle in their action and so have caused the disease to become inveterate. Dr. Cabot's method secured the disappearance of the gonococcus in from eight to ten days in seven-eighths of the cases in which it was used. In the other eighth the course of the disease did not seem to be affected either favorably or unfavorably.

Review of Methods.—One recent method that has been employed for shortening the course of gonorrhea consists in washing out the anterior urethra and then with a cotton swab through a speculum touching inflamed points with a solution of nitrate of silver. A second method was that introduced by Janney in which irrigation of the entire urethra was accomplished by securing the relaxation of the compressor muscle of the urethra and allowing the solution to find its way

into the bladder. From the bladder its subsequent ejection gives a second washing to the urethra. For a time this method seemed to promise very favorably, but it proved to be too violent for most urethras and induced complications. A third method consisted in the use of the double-flow nozzle, the outflow of which was larger than the inflow. Observation showed, however, that once the urethra becomes distended by the irrigating fluid very little interchange takes place between the inflowing solution and the column of fluid in the urethra itself. A short circuit of the fluid is formed between the two branches of the nozzle and the column of fluid in the urethra remains almost absolutely stationary. Certainly the method is no better than an ordinary hard rubber syringe. A fourth method makes use of a soft catheter, which is inserted into the urethra while the solution flows back along the instrument to find its way out at the meatus. By this method some of the solution originally introduced remains in contact with the urethra, that is to say, friction retains a layer of solution just over the mucous membrane. In this way the gonococci just beneath the surface of the mucous membrane or lying between the cells are protected from contact with the stream of fluid and so fail to be washed out.

Gonococci and Silver Salts.—Dr. Cabot proposes a combination of the good features of these methods. For the injection, in accordance with the old tradition that makes the silver salts the best antiseptic against gonococcal infections, Dr. Cabot employs one of the silver salts. In order to decide which one of the silver salts is most effective he made a series of observations upon their antiseptic qualities. A one-per-cent. solution of argonin kills gonococci in twenty-four hours; a five-per-cent. solution absolutely prevents growth. Solutions of protargol of corresponding strength give about the same results. On diphtheria bacilli the same effects are produced. No observations were made as to the effect of these solutions on cultures of the gonococci. When cultivated on artificial media the gonococcus is a very weak and delicate organism, so easily affected by unfavorable influences that its destruction constitutes no test of the influence of a remedy on this organism when growing vigorously in human tissues.

Technic of Treatment.—Cases of gonorrhœa that come for treatment during the first twenty-four hours can be greatly relieved and the gonococci made to disappear from the discharge without fail in the course of a few days. When the gonococci have penetrated, however, beneath the superficial layer of the mucous cells, it is almost impossible to remove them completely and the case is sure to become more or less chronic. At the patient's first visit, before any treatment is instituted, a specimen of the discharge should be taken for examination. Then the patient should be asked to urinate and after this the urethra should be washed out with warm water. A solution of argonin, 5-10 per cent., should then be injected deep into the urethra by means of a bulb

syringe. About six drams of the solution should be employed and it should be retained within the urethra. Gentle kneading of the penis should be employed to bring all parts of the urethral mucous membrane in contact with the solution. As the solution is allowed to escape an applicator with a ten-per-cent. solution of argonin should be used to wipe out the urethra. If this is inserted while the solution is still retained within the urethra no difficulty will be experienced and no pain produced. Cocaine should not be used to deaden the pain as injury of the delicate urethra is thus rendered easier.

Other Treatment.—Citrate of potash should be used plentifully to render the urine bland. The penis should be thoroughly soaked in warm water about three times a day. Where the case presents a copious discharge, this prescription may be given:

B. Plumbi acetatis.....

Acid. tannic.....

Zinc. sulphat.....

Cupri. sulphat.....aa. grs. ij

This should be prepared in tablet form and the tablet should be dissolved in four ounces of water and used after each urination. When this system of treatment is followed the gonococci have usually disappeared at the end of a week and the discharge ceases in from eight to ten days. Examinations for gonococci are made every two days. The solutions that are employed should be hot, the temperature being not less than 110° F.

The Newer Silver Salts.—In the discussion Dr. Fuller said that the recently-introduced silver salts, caseates and so forth, have proven to be especially unirritating to mucous membranes. There is no doubt that the silver salts are the most efficient agents for the destruction of gonococci. Silver nitrate, however, nearly always proved too irritating. The old abortive treatment by the use of strong solutions of silver nitrate, if it did not succeed in destroying all of the gonococci present, left an extremely favorable soil for the growth of the gonococcus. The inflamed tissues presented the most favorable culture medium and the resistive vitality was very low. Argonin, while quite as efficiently antiseptic as nitrate of silver, is practically non-irritant. If a case of gonorrhœa comes for treatment before burrowing of the gonococci has taken place there is a good chance for the abortion of the disease by the use of this agent. Many of the methods of treatment suggested, as, for instance, the irrigation method, seriously disturb the urethra. Of course very few patients will consent to make two visits a day to the doctor. As soon as the discharge becomes but slight, the patient bolts and then relapse ensues and the gonorrhœa assumes a chronic condition. Whenever the inflammation extends as far as the bulbous portion of the urethra, all attempts at abortive treatment, or any irritative local treatment, should cease. Abortive treatment to be successful must be begun early.

Success in Abortive Treatment.—Dr. Howard Lilenthal said that the absolutely essential con-

dition of success in the abortive treatment of gonorrhea is to kill all the germs present by the first injections. If any of the gonococci escape the antiseptic, the subsequent course of the gonorrhea is always made worse, as the micro-organisms find a most favorable nidus in the irritated tissues. This was especially true under the old method of the use of nitrate of silver. Argonin does not produce so much irritation, so that the new method of treatment deserves a trial. Some other way of combating gonorrhea than by direct killing of the gonococci is needed. Gonorrhea is recognized generally as a self-limited disease. Some change takes place in the blood and the tissues which makes them an unfavorable breeding-place for gonococci. Perhaps it is not too much to expect that at some time a specific will be found which will produce a corresponding action through the circulation. This specific may prove to be a serum that will kill the germs even though they may be deep in the layers of urethral tissue.

Gonococci and Temperature.—Gonococci grow only in a very limited range of temperature. Whenever the medium in which they are growing is kept at a temperature much above 105° F. they perish. Because of this Dr. Lilienthal hoped some years ago to abort gonorrhea by raising the temperature of the penis above that at which gonococci usually live. By means of coils and even continuous irrigation the temperature of the urethral tissues was raised. The gonorrhreal discharge ceased under the treatment, but came back as soon as the temperature was allowed to sink to normal.

The Oleoresins.—Dr. Lilienthal said that the oleoresins—cubebs, copaiba and sandal-wood oil—seem to exert a specific action on the discharge of gonorrhea. The secretion from the inflamed urethra is certainly much less while these drugs are being administered. It is usually said that this diminution in the discharge is due to the fact that the oleoresins make the urine bland. The administration of copious draughts of water suffices to make the urine bland, but does not affect the discharge in the same way as the administration, for instance, of sandal-wood oil. Dr. Lilienthal has seen the discharge stop and then when the sandal-wood oil was discontinued the discharge reasserted itself. It disappeared later, when the sandal-wood oil was resumed, but reappeared as soon as the administration of the drug was stopped. Unfortunately, while the oleoresins limit the amount of the discharge, they do not cause it to stop entirely and so fail of the proper purpose of curing gonorrhea.

The Silver Salts.—Dr. Frederic R. Sturgis said that there is no doubt that the silver salts have a specific action upon gonococci. This gave nitrate of silver its old time popularity. But this special drug is too irritating for most urethras. It must be remembered, however, that the first inch of the urethra is much more sensitive than the deeper parts. Application of twenty-per-cent., thirty-per-cent., and even fifty-per-cent., solutions of nitrate of silver have been made in deeper parts

of the urethra without producing any reaction. The recently-introduced silver salts without irritating properties must be the choice in the present-day treatment of gonorrhea. Of these the best seems to be protargol, and after this argonin. These salts should be used in a solution of at least five-per-cent. strength, and a ten-per-cent. solution makes a good average remedy for ordinary practice. Irrigation undoubtedly does as much harm as good. It irritates and inflames the canal and so renders the disease inveterate. There is not much danger in washing infective material back into the bladder, if the urethral canal is well cleaned out. When the patient urinates afterward the lips of the meatus should be held together for a moment so as to secure the natural flushing effect of the dilatation of the canal thus produced. Dr. Sturgis does not use a swab after the injection, but makes applications through the endoscope. These always do good and never harm unless the anterior urethritis is very acute. Then, of course, no endoscope should be employed.

Temperature of Injections.—Dr. Sturgis thinks that the injections should be given at as high a temperature as the patient can stand. This should always be 120° F. and can often be even 140° F. When the doctor can not bear to keep his hand on the syringe the patient may make no complaint of discomfort, but on the contrary may find the warmth rather pleasant. If the discharge is more than forty-eight hours' duration when the patient comes for treatment, there is no prospect of the abortive treatment being successful. Dr. Sturgis has not had cures in less than fourteen days.

In closing the discussion Dr. Cabot said that in the cases in which he had succeeded in successfully aborting gonorrhea have come within twenty-four to thirty-six hours after the first symptoms. The heat of the injection is important and should be as high as can possibly be borne. The strength of argonin solutions may be increased very much without producing irritation. Dr. Cabot has used thirty-per-cent. solutions without producing more unpleasant effects than with ten-per-cent. solutions.

Dr. Brewer said that when the oleoresins are administered injections into the urethra are borne much better than when this medication is neglected.

Ruptured Spleen.—Dr. N. B. Potter reported a case of ruptured spleen which he had seen during the week. The patient, a South American, was first seen on Monday after he had had a chill. His temperature was found to be 103.4° F. On Wednesday there was another rise in temperature and the spleen was found to be very much enlarged. The patient was very anemic, but there was no apprehension as to a fatal termination. During the afternoon of Wednesday serious symptoms developed, signs of internal hemorrhage showed themselves, and before surgical aid could be rendered the patient died. At the autopsy death was found to be due to rupture of the spleen. About half a pint of blood was found in the peritoneal cavity. Cases of spontane-

ous rupture of the spleen are rather rare. Very slight trauma is sometimes sufficient to produce rupture in the acute enlargement of the spleen due to severe malaria. So simple an act as defecation or sitting up in bed can prove the immediate cause of rupture of the spleen.

Was the rupture of the spleen in this patient caused by manipulation during examination of the patient? All of the manipulations were done very gently and the symptoms of the rupture did not begin immediately after the examination, but several hours later. Moreover, the tear in the capsule of the spleen was not on the anterior portion, but was well back beneath the ribs. Besides, the appearance here was that of spontaneous fracture, for there seemed to have been a hemorrhage within the spleen, the pressure of which finally caused a tear in the capsule. Rupture of the spleen occurs usually only in tropical countries and in regions where severe malarial fever abounds, as in certain parts of Italy.

Omental Cyst.—Dr. Brewer reported a case of a child, six years of age, who was operated on for what was thought to be tuberculous peritonitis. The little patient had been under treatment for six or seven weeks in the medical ward and besides moderate fever had considerable abdominal distension. A distinct wave of fluctuation could be elicited and the liver was pressed up beneath the rib margins. Aspiration brought away a fluid slightly tinged with blood, and as the child's condition did not improve operation was decided on. When the child came to the operating-table it was noted that the enlargement caused by the presence of the fluid gave a distinctly fusiform or spindle shape to the patient's trunk. Some infiltration of the right apex had been noted and was considered sufficient to justify the diagnosis of tuberculous peritonitis. On opening the abdomen what was found was a huge cyst within the great omentum, the pedicle of which lay between the stomach and the transverse colon. The cyst-wall was so thin that it ruptured even on very gentle manipulation. The pedicle being ligated the cyst was removed and the patient recovered.

Dr. Gibson said that he had seen the same patient at St. Luke's Hospital where he came demanding an operation. In another patient he has seen the same inexplicable desire for laparotomy. When this individual came first he claimed to be suffering from recurrent appendicitis of which he had had, according to his own story, seven attacks. His appendix was removed and was found to be seven inches in length and quite thin, but seemed perfectly normal. The pathologist reported that it was absolutely normal. Later the same patient turned up at Roosevelt claiming that he was suffering from appendicitis and demanding another operation, later still he was heard of at Bellevue, bent on the same mission. It seems evident, then, that there is a class of cases in which patients morbidly exaggerate their symptoms with the purpose of having operations done for which there is no need.

In discussing the case Dr. Foote said that he had seen one cyst of the great omentum in the autopsy-room at Strasburg. Its nature proved a mystery until Von Recklinghausen himself was consulted, when he suggested a careful examination of the abdomen for hydatid cysts. After a good deal of search two small cysts were found in the lower part of the abdomen. In that case, as in Dr. Brewer's, the cyst-wall was very thin and almost transparent.

Dr. Coley said that he had once encountered omental cysts in a hernial sac. Several of them were drawn down with the omentum and carefully tied off.

Laparotomy Mania.—Dr. Foote reported the case of a young man who came to the hospital suffering from an obscure and, as he claimed, painful condition in the abdomen. His subjective symptoms pointed to some pathological condition in the right iliac fossa. Examination of his abdomen showed the presence of the scars of four laparotomy incisions. He claimed that he had been operated upon first in Russia and that something had been removed from his abdomen, although just what it was it was hard to make out. He had been three times operated upon in this country and it is evident that he has been making the rounds of the hospitals for the purpose of having abdominal operations done for imaginary or feigned ailments.

NEW YORK ACADEMY OF MEDICINE—SECTION ON MEDICINE.

Stated Meeting, Held December 18, 1900.

John H. Huddleston, M.D., Chairman.

Treatment of Acute and Chronic Alcoholism.—The first paper was by Dr. A. R. Braunlich, Interne at Bellevue Hospital, on Acute Alcoholism at Bellevue. Dr. Braunlich said that the cases of acute alcoholism which come for treatment may be divided into three classes. First, acute alcoholic intoxication; second, delirium tremens; third, alcoholic mania. Occasionally other complications of alcoholism are seen in the alcoholic ward—as melancholia, alcoholic neuritis, alcoholic epilepsy and epileptic mania, brought on by overindulgence in spirituous liquors. These last conditions are rare, however, for, as they are either chronic or need treatment especially for their mental trouble, they are usually transferred to other departments. The most frequent form of alcoholism is an emotional boisterous stage. This is treated routinely by a dose of thirty grains of potassium bromide and fifteen grains of chloral hydrate. These remedies are repeated in an hour if the patient's symptoms continue. The patient is persuaded to get to bed as soon as possible and after a few days of rest can usually be discharged without more ado.

Dead Drunks.—A second important class of cases are the dead drunks. For these a stomach-tube is used immediately after their entrance

and their stomachs thoroughly cleared of any alcohol that may be present. External heat is then applied and the patients are rolled in blankets. One-thirtieth of a grain of strychnine is administered hypodermically and one to two minims of the fluid extract of digitalis. There often exists in these cases an acute gastritis with very persistent emesis, which increases the prostration and further disturbs the patient. For this morphine is given in doses of one-fiftieth of a grain, subcutaneously, every fifteen minutes to one-half hour, until the patient is able to retain fluid. Fluid is first given in very small quantities, not more than a dram of milk or water at a time. Even this is not repeated frequently, until retention is assured.

Delirium Tremens.—When symptoms of delirium are manifest in chronic alcoholic patients, the sudden withdrawal of alcohol has been found to be dangerous in certain cases. If symptoms of cardiac failure assert themselves, a little alcohol must be allowed as a stimulant to the circulation. Other circulatory stimulants should be freely employed. Of these aromatic spirits of ammonia and tincture of digitalis have been found most effective. It must not be forgotten by the advocates of the sudden and complete withdrawal of liquors that these remedies contain a certain amount of alcohol and that this is one good reason for the benefit they do. Strychnine is given hypodermically in doses of one-sixtieth to one-twentieth of a grain, according to the necessity for stimulation. Atropine is given in doses of one-one-hundred-and-fiftieth to one-fiftieth of a grain. Where there is much excitement sodium bromide is given in doses of thirty grains to one dram, one-eighth of a grain of morphine is given hypodermically and one-one-hundredth of a grain of hyoscine. A wet pack proves very soothing and its use will often obviate the necessity for the administration of strong hypnotic drugs. After the stage of excitement is past, forced feeding is the treatment especially indicated.

Forced Feeding in Alcoholism.—After an attack of delirium tremens, the patient must be tempted to take as much food as possible for at least a week or ten days. One of the members of the visiting staff at Bellevue uses so many eggs for his alcoholic patients that there has been a protest from the commissary department of the hospital because of the expensiveness of this article of diet at certain times. At least six to eight eggs a day should be used by convalescent alcoholics. They are the most easily digested concentrated food that can be used. After an attack of delirium tremens it must be remembered that patients are very prone to suffer from almost unquenchable thirst. Water should be given very freely then and nurses should be instructed to see that at least every hour some water is offered to the patient, or a fresh supply placed beside him. The aqua ammonii acetatis may be used freely and will be found to be very refreshing and stimulating.

Alcoholic Mania.—For this condition the best drugs to produce quiet are morphine and hyoscine. Patients need to be carefully restrained and usually require the services of a special attendant. Where the mania lasts for some time patients are not kept in the ordinary alcoholic ward, but are transferred to the insane pavilion. Alcoholic neuritis runs so chronic a course that very few cases are retained in the alcoholic ward. Epileptic mania due to alcoholism is transferred to the insane wards. All of these cases of mental aberration due to alcoholism should be closely watched as regards the development of organic disease and especially pneumonia. It must also be borne in mind that pneumonia in alcoholic patients often causes a delirium that may for a time simulate maniacal excitement and lead to a mistake in diagnosis.

Treatment After Acute Attack.—For the anorexia which so often follows an acute attack of alcoholism, a prescription containing ten minims each of capsicum, nux vomica and ginger is often of great service. For this state of anorexia and general relaxation, exercise in the open air has been tried, but it was found that where patients walked much their convalescence was slower. Rest is an important element in the treatment of the exhaustion which follows acute alcoholism. If the alcoholic gastritis is severe capsicum is contraindicated, because it is so irritant. In a number of cases of wet brain, lumbar puncture was tried. In some of the cases improvement followed, but there seemed to be very little if any direct effect. At the beginning of excitement such as may come on sometime after an excess and its effects have passed off, thirty grains of bromide and fifteen grains of chloral repeated if necessary will prove a useful remedy. In general forced feeding and sufficient stimulation are the important element in the treatment of alcoholic cases, after acute symptoms have passed off.

Classification of Chronic Alcoholism.—Dr. T. D. Crothers of Hartford, Connecticut, said that all inebriates may be grouped under three heads: (1) The paroxysmal, (2) the delusional, and (3) the senile, or demented. Under inebriates are included all who take alcohol to excess. Alcoholism means simply a poisoning of the system. Inebriety is a pathological condition having a definite cause and recognizable symptoms and the taking of alcohol to excess is usually only one of its symptoms. Paroxysmal inebriates are those who take alcohol to excess periodically and then abstain sometimes for long intervals. The intervals are often regular, but may be irregular. There is often a precise uniformity in the return of the impulse to take stimulants, which it is difficult to understand. The attacks are sudden, and there seems to be a distinct neurotic cycle in the organism. A man of distinction, who suffers from periodical attacks of inebriety, has his impulse to take stimulants return every ninety-one days and some hours. At that time no consideration is able to in-

hibit the impulse. It is a true insane idea, an imperative emotion. When such attacks recur, they often come without premonitions. After some experience, however, the patient is able to recognize that an attack is coming. If he should be prevented from procuring stimulants an almost maniacal state develops. Another intelligent patient has his impulse to take alcohol return every ten months. He has put himself under a doctor's care several times, but has not succeeded in preventing a return of the morbid impulse. Many patients conscious of these recurring impulses go to a hotel in a distant city for some days, drink to their satisfaction in their rooms and then return to business. Others go to sanatoria and reformatories in the hope to put off the temptation.

Causes of Alcoholic Impulse.—These drink-storms return at such irregular intervals in most cases that it is often hard to determine their causes. Usually a condition of exhaustion has supervened in the patient just before the impulse takes possession of him. Often the attack is preceded by a period of overwork, nervous strain, mental worry. Often it is accompanied by unusual excitement and mental disturbance. Such patients, if interfered with, have moments of destructiveness and are prone to use abusive language, though at other times they may be utterly unaccustomed to it. This condition represents the true dipsomania. A thirst for spirits seldom grows into this maniacal impulse. The dipsomaniac may have more or less repugnance to alcohol between his attacks. The neurotic basis of the affection is thus made clearer and the necessity for its treatment as a nervous and mental condition made more emphatic.

Delusional Inebriates.—The first symptom of this condition is often an increased confidence in the part of the patient in his power to overcome the drink thirst. He knows that he has tendencies to take more spirituous liquor than is good for him, but feels sure that whenever he wishes he can break up the habit. This delusional condition extends after a time also to other subject-matters. The patient is sure that he is able to accomplish other things quite beyond his power. When on any special occasion he fails to overcome his habit he offers the most childish explanations and considers them amply sufficient. Some of the reasons given are the typical reasons of insane minds. At times in these cases, pareisis develops and the picture is one of delusions of grandeur. As a rule such patients develop a boundless confidence in remedies of all kinds and especially drink remedies. The more secrecy is attached to a method of treatment the surer are they of its efficiency. These constitute most of the class of people who set themselves up as examples of wonderful cures. Their relapse into their old habits is only a matter of time. After a while such patients develop other delusions, especially those of persecution. They insist that friends are forcing them to suicide. Electricity appeals strongly to their imagination and they

are frequently convinced that friends are using electrical contrivances on them for the purpose of torturing them. Such patients are prone to intense jealousy. As the result of these delusions of persecution they may themselves in turn become persecutors and commit violent acts.

Senile or Dementic Alcoholics.—These are patients usually of feeble mentality who drink almost without purpose. Where alcohol is not easily obtained they do not take it. They do not drink while in the country, but drink almost continually in the city. Very often these patients are degenerates from birth and the wear and tear of life would seem to have used up all their will power. Sometimes this senile or dementic alcoholism develops as the result of brain injuries or shocks. This traumatic form is rather easily recognized. At times dementic alcoholism is the result of exhausting disease. Not infrequently it is the terminal stage of the paroxysmal form of inebriety. Sometimes such patients go into the saloon business for no other purpose than to be in a position to take stimulants at all times.

Treatment.—The first and most important element in the treatment of inebriety is thorough control of the patient under circumstances that make the getting of alcohol an impossibility. For this to be successful a change of surroundings and external conditions with a home among strangers is absolutely necessary for severe cases. An asylum at a long distance from his home is the best beginning of the treatment. If the patient is in the midst of a paroxysmal drink-storm when he comes under treatment, the question of the withdrawal of spirits is of importance. Notwithstanding the tradition in the matter, the sudden withdrawal of spirits will not cause delirium if baths and salines are used freely. The taste for alcohol may be overcome by giving two ounces of quassia every two hours, until a feeling of disgust for alcoholic drinks is produced. Other bitter tonics, notably cinchona, produce this same effect. An adjuvant remedy in these cases is apomorphine, which may be used in doses of one-sixtieth of a grain, until nausea is produced and this will limit the craving for alcohol. The stimulant effect of alcohol may be replaced by nux vomica, given in good quantities. A quarter-of-a-grain pill may be given every two hours.

Poisoning and Starvation.—After the effects of an attack of acute alcoholism have passed off two serious conditions usually remain. One is a poisoned condition of the system due to the presence of alcohol and its products in the tissues—the other is starvation due to the anorexia. The poison should be eliminated from the system as rapidly as possible. For this hot-air baths, or, if these depress, electric-light baths should be employed. Electric-light baths are given by placing the patient for some time in a flood of electric light. It has been shown that perspiration occurs more freely, even at the same temperature of the room, when the skin is exposed

to strong light. A rapid and intense elimination of poisonous products occurs through the skin. After this free sweat a feeling of exhilaration takes the place of the sense of depression, the patient becomes more restful and sleeps well.

Latent Organic Disease.—Alcoholic excesses often lead to the concealment of organic disease until these affections have developed to an alarming stage. This is especially true of tuberculosis. The effect of alcohol and of the toxin of tuberculosis are not unlike. Members of the same family that suffer from the toxins of alcohol and from the toxins of tuberculosis may exhibit similar symptoms. This accounts for the insidiousness with which the tuberculosis may develop.

Narcotics.—Narcotics must be used with caution and so far as possible only the milder drugs of this type employed. Lactucarium, lupulin and valerian are important drugs in this respect and will produce much more quieting effects than is usually thought. Bromide of soda is a useful remedy and is preferable to the bromide of potash, but should be given in sufficiently large doses. Where marked restlessness exists fifty to one hundred grains of the drug should be administered at a dose. If syphilis exists with the alcoholism, mercury and the iodides must, of course, be given. They will then be found to control many of the symptoms which were supposed to be due to the alcoholism and will save the use of strong narcotics.

General Treatment.—Arsenic is a very good remedy for its general tonic effect. Phosphate of soda should be given continuously for some time after an acute attack of alcoholism. It acts as an hepatic stimulant and its eliminative action makes it very valuable. The other indications are for rest, food and frequent warm baths. These baths are particularly useful because of their eliminative action. The mental treatment of alcoholics is important. The influence of suggestion and good example must not be lost sight of and the patient must be provided with constant mental diversion so as to keep from brooding over his condition. There is no specific treatment for alcoholism. Sometimes the drink craze proves to be self-limited. The last remedy that has been used is then thought to account for the change that has taken place. The reason for the alteration in the patient's character seems to be some change in the brain material. The hope is that a change like this can be led up to by institution treatment.

Hypnosis for Alcoholism.—Dr. J. D. Quackenboss said that hypnotism is an efficient remedy in the treatment of alcoholism. It has not thus far been employed to the extent that its success justifies. Hypnosis reveals the fact that there is in human nature a dual personality. Each self has a distinct consciousness. The primary self is employed with the ordinary business of life. The secondary self is concerned with the automatic actions of life. It apprehends intuitively and does many things that the primary self is not

able to comprehend. One personality does not shade into the other. They are essentially distinct, although they may influence one another for better or for worse. Hypnosis brings out the subliminal or submerged self. The influence of this personality can be employed to overcome the want of energy in the primary self. Dipsomania yields readily to hypnotic suggestion and in these cases hypnotism is as a rule easy of employment. During a state of intoxication hypnotism can not be employed. Just before a drink-storm, however, hypnotic suggestion may prove most effective. Most observers are agreed that there is an intimate relation between the use of tobacco and alcohol. When tobacco is used to excess the alcohol habit is usually a concomitant, and when drink-storms come on they have often been preceded by a period of greater use and abuse of tobacco than usual. The periodicity of dipsomanic attacks is quite marked. The longest period that Dr. Quackenboss has seen was three years. Often it will be found that spells of crankiness, lowered inhibition and lack of resistance to irritation, immediately precede the outburst of acute dipsomania.

Hypnotic Technic.—Once a patient has been brought under the influence of hypnotism, carefully thought out suggestions should be impressed upon him. He should be told, for instance, that alcohol will disgust him, that he will not be able to bring a glass of liquor to his lips, that the use of it with food will cause the food to disagree with him. Then the mental picture should be impressed upon him of the effects of alcohol. The meretricious attractions of the bar-room should be set off by picturing to him, while in the hypnotic state, the delights of a chaste home-life. Apprehension of the results of alcoholism should be aroused and at the same time promises given of glorious success in his effort to overcome the habit. In giving these suggestions sincerity is absolutely necessary. They must be in the nature of an inspiration. The words must not be mere lip-work, nor a rote lesson. There must be a reciprocal transfer of personality. The hypnotic subject recognizes in his trance state at once any disingenuousness, or lack of candor that may be present. The consent of the patient must, of course, be obtained otherwise he will not respond to suggestion. It is not enough for him to come to receive hypnotic suggestion for the cure of his drink habit, merely because friends have insisted on it. He must have a sincere desire himself. While in the hypnotic state this desire may, however, be thoroughly awakened in a vacillating spirit. This can be done by pointing out the dangers there are in alcoholism. The treatment must not be abandoned too soon and it must be remembered that it does not guarantee against relapse. No remedy nor set of remedies that we have will guarantee against relapse in any disease. As in rheumatism, tonsillitis, and diphtheria, one attack of dipsomania predisposes to others. Even though the patient is cured for the time the dis-

case may return. In addition to hypnosis other therapeutic methods should be employed at the same time. The patient should be thoroughly stimulated by means of strychnine, or coca, if that is deemed necessary. In acute excitement and restlessness bromide of potash and chloral should be used freely. In the milder forms of restlessness the valerianates should be employed. In the last two years, Dr. Quackenboss has had under treatment forty inebriates. In about fifty per cent. of these cases that are still under observation there has been no relapse. The longest cured case passed from treatment about a year ago. Thirty-three per cent. of the patients have been lost sight of; seventeen per cent. are known to have relapsed; about one-half of these latter cases were known to be hopeless from the beginning. Where degeneracy exists and alcoholic deterioration of the brain has already taken place, hypnotism does not produce its usual effect and relapses are not infrequent.

In closing the discussion Dr. Crothers said that suggestion with or without hypnosis is very useful in the treatment of alcoholism. The damaged brains of alcoholic patients do not, however, hold impressions long. Impressions are only superficial. The pietist and the moralist have shown us how transient are the effects of suggestion, though they must be tried even unto ninety-nine times and occasionally they do produce lasting good effects. In answer to a question, Dr. Crothers said that after fifteen years about thirty-three per cent. of patients that have been under his care are without relapse. Some of the patients have been more than twenty years without taking liquor. In one case after eighteen years of abstinence the drink habit was reestablished. It is very difficult to give any prognosis in individual cases, or to calculate the average of cures.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, Held December 4, 1900.

The President, Frederick Peterson, M.D., in the Chair.

Terminal Condition in Diplegia.—Dr. William M. Leszynsky presented a man, twenty-one years of age, in whom the chief feature of interest was a trembling of the hands, which had existed as long as he could remember. Nothing was known of his early history except that he had always been nervous. His mother had died of cancer of the uterus. The trembling had always been more marked on the left side, and his condition was apparently growing steadily worse. On careful examination no disturbance of sensibility could be detected. There was excellent muscular development on the left side and a spinal curvature, probably arising from the use of one side more than the other. There was no signs of atrophy. There was some asymmetry of the cranium. There was no disturbance of vision, but concentric contraction

of the visual field. There was no nystagmus, and the pupils and fundi were normal. There was a positive tremor when at rest, and a more active tremor on motion. He holds the left arm in extension, but close scrutiny shows that all of the rigidity is in the extensors. The elbow-jerk was elicited only on the right side. Both knee-jerks were exaggerated. Ankle clonus had been demonstrated on both sides, although much more marked on the left. Dr. Leszynsky said that this man had probably recovered from a paralysis that he had had at one time, and was now suffering from a terminal condition of an infantile palsy. Undoubtedly there was a good deal of functional disturbance added to the organic trouble.

Dr. M. Allen Starr thought the case was an athetosis on the left side; and that probably the same lesion, to a minor degree, was present on the opposite side. It was apparently a post-diplegic condition.

Dr. E. D. Fisher looked upon the case as one of cerebral diplegia most marked on the left side, and with the athetoid movements often seen in such cases. This extreme muscular development seemed to him not at all uncommon in this class of cases. He would like to know concerning the electrical reactions.

Dr. B. Sachs said that there could be no doubt that the left side was the center of disturbance, and it was also probable that a part of the tremor was functional. The condition of the muscles in the scapular region seemed to him fully accounted for by the spinal curvature present.

Dr. F. Peterson agreed with the diagnosis of postparalytic athetoid form of movement. Where the paralysis was small he thought these finer movements were more apt to be present.

Dr. Leszynsky had not yet tested the electrical reactions. It seemed to him that this man could be benefited if properly trained. Hypnotism had been suggested, and it seemed to him worthy of trial. The method used for ataxics would probably prove beneficial; it had just been commenced.

Two Cases of Spinal Tumor, Operation and Removal.—Dr. M. Allen Starr said that five years ago he had been able to collect 145 cases of spinal tumor, in twenty-two of which operation had been undertaken. In the cases forming the subject of the present paper the symptom pain had been very prominent, and this together with the symptoms of pressure on the cord had allowed of the diagnosis being made.

Case I.—Mrs. E. W., thirty-five years of age, had been in good health previous to March, 1899, at which time she had begun to suffer at night from paroxysms of pain near the heart. They were not brought on by exertion, but were much increased by touching a region to the left of the nipple. From September, 1899, to May, 1900, she had been treated by many physicians for angina pectoris, hysteria and other disorders. Nitroglycerin had always intensified the pain.

On May 10th Dr. Theodore Janeway had examined her and found her in an extremely nervous condition and suffering from constant pain. The left knee-jerk was exaggerated. Over the left side of the dorsal spine was extreme sensitiveness from the first to the eighth dorsal spine, and over the corresponding intercostal nerves at the angles of the ribs. There was no affection of the arms and the internal organs were normal. When examined by Dr. Starr on October 20th she was suffering much from pain at the level of the fifth and sixth intercostal nerves, much more marked on the left side. There was very marked tenderness over the dorsal region from the first to the seventh dorsal spine. A condition of partial anesthesia was found on the trunk and total anesthesia in the legs. Her legs were quite powerless, but there was no atrophy of the muscles. Ankle clonus was present on both sides, and both limbs were cold, blue and edematous. She had recently been unable to control the sphincters. Dr. Janeway had made a diagnosis of tumor of the spinal cord at the fifth dorsal segment. On October 22d she had been operated upon by Dr. McCosh at the Presbyterian Hospital. On dividing the dura an extremely edematous state of the wall was observed, with one white plaque lying upon it. The cord was smaller and whiter than normal, and was not pulsating. No tumor was found. Three days later the wound was enlarged upward and the dura found to pulsate freely at the upper level, but not lower down. A tumor, $1\frac{1}{2}$ inches in length, lay upon the cord. It was oval, had a distinct capsule, and was removed *en masse* without difficulty. Subsequent examination showed it to be a fibroma. The cord had been reduced to about one-half of its diameter beneath the tumor. No attempt was made by nature to heal the first operation wound, and in spite of great care an extensive bed-sore developed over the hip. In the second week after operation the constricted feeling became less marked. The operation wound healed very slowly. In the fourth week after the operation the patient had constant fever, probably because of the extensive bed-sores. The spinal incision healed about this time, but she died a few days later. The autopsy showed a softened condition of the cord opposite the exit of the second dorsal nerve from the dura, and the fifth and fourth dorsal nerves could be traced into this area. Owing to the rudimentary condition of the spine of the third vertebra an error of one vertebra had been made in the count at the time of operation. The case seemed to emphasize the fact that there should be no delay in operating for spinal tumor after the diagnosis had been reached. In this case the delay had arisen from an effort to try the effect of antisyphilitic treatment, the husband being known to be syphilitic. Bed-sores had developed before the operation, had continued to extend in spite of it, and had eventually caused death from sepsis. Gumma of the spinal cord is quite rare,

only twenty-six such cases having been found in a series of 400 cases. The tumor had been found about two inches higher than had been anticipated. Reed's table had been used as a guide at the first operation, but according to Bruns the operation should be done two segments above the upper limit of pain. This advice was nearer the truth in the present case. The level of the pain was about eight inches lower than the level of the tumor; hence, in operating for spinal tumor the level of the cord should be exposed at least four inches higher than the level of the spinal nerve in which pain is found.

Case II.—Mrs. K., forty-six years of age, had been in good health until May, 1900, when after a slight injury she had been delivered of a dead child. Soon afterward she had begun to suffer pain over the left hip, and this pain had extended down to the left knee. It had caused insomnia and progressive loss of health. In September she had noted numbness of the left foot. On October 16th, on admission to the Presbyterian Hospital, she was pale and feeble, and seemed to be suffering from paroxysms of pain over the left trochanter and that side of the sacrum. There was drop-foot due to paralysis of the peronei and anterior tibial muscles. The bladder required catheterization, and the rectum had to be emptied by enema. There was an area of anesthesia down the back of the left thigh and leg, and a smaller area was found on the right side. Under mixed treatment the paralysis extended and the pain became more severe. An area of tenderness to pressure was found over the second, third and fourth lumbar vertebrae, and pressure here aggravated the pain in the hip. It seemed probable from these facts that there was a tumor pressing on the cauda equina, and extending as high as the level of the exit of the second lumbar nerve. The functions of the sacral nerves and last lumbar nerve were evidently affected on the left side. A diagnosis of a cauda lesion was reached because of the level of the pain. On November 15th Dr. McCosh removed the spines and arches of the second, third and fourth lumbar vertebrae. Dissection showed a tumor involving both the soft and hard tissues of this region. The spines and arches had been eroded by the tumor, which subsequently proved to be an endothelioma. This tumor had invaded the spinal canal and produced pressure on the dura. The patient was in a critical condition for two days after operation, but since then had improved rapidly and had had no pain since the operation. A considerable degree of atrophy had developed in both peronei. The wound had healed perfectly and there was no evidence of recurrence. It was reasonable to hope for recovery unless there should be speedy recurrence. Out of 145 cases of spinal tumor that he had collected, the history had been fairly clear in 122. Of seventy-six cases an operation should have been feasible, and according to the pathological report in 75 per cent. the tumors could have been removed.

Dr. A. J. McCosh said that he had found spinal surgery much more satisfactory than brain surgery; certainly the localization of the lesions had been more satisfactory. It was difficult to say, however, that a lesion is situated at any one segment of the spinal cord, but as a portion of the cord equal to three or four vertebrae must be exposed a slight error in localization is not of great importance. He had had recently a case presenting symptoms almost exactly like those of the first case reported in the paper. The line of anesthesia had been almost the same, but there had been no paralysis of the arms. The autopsy showed a crushing injury of the cord between the fourth and sixth cervical vertebrae. The ordinary rules laid down had indicated a lesion much lower down, and he had in this way been misled at the operation. He had not found laminectomy a very serious operation as a rule, most of the patients having exhibited comparatively little shock; hence, one should not hesitate in advising the operation when the diagnosis was sufficiently clear. He agreed thoroughly with what Dr. Starr had said about the inadvisability of delaying the operation for weeks in order to give antisiphilitic treatment a trial. He had met with a number of cases in which he believed the fatal result was attributable to such delay. When bed-sores were already present the case was practically hopeless, the patient almost invariably dying from sepsis. It was well to remember that tumors of the cord are usually found higher up than the estimated level. By beginning above and working downward, it seemed to him that the healing process would be favored. He was not of the opinion that there was any good ground for believing that the operation of laminectomy so weakens the spine as to lead to disability. Mention was made of one of his cases in which a man was engaged at an occupation requiring the frequent lifting of heavy weights, yet he had felt no inconvenience as a result of the operation upon his spinal column.

Dr. Pearce Bailey reported the case of a man, forty-one years of age, who had been treated for some time previously for a variety of troubles. When seen in May he had stated that about fifteen months previously he had begun to have intense pain on the inner side of the left thigh. There had been an interval of a few months in which this pain had almost subsided. There was slight atrophy in the left leg; the left knee-jerk was absent; there was very slight anesthesia. The case seemed to be one of tumor of the cauda equina. Dr. McCosh had operated upon him on May 22d. He had removed the last dorsal and the first and second lumbar vertebrae, and had exposed what had looked at first like a blood-clot, but microscopical examination had proved this to be a round-celled sarcoma. Although it was probable that all of this sarcoma had not been removed, the man had done extremely well all these months, was free from pain and had resumed his occupation.

Dr. Sachs coincided with those who had advised against delaying in these cases in order to try specific treatment. He was thoroughly in favor of operating just as soon as the diagnosis had been established with reasonable clearness. It was a great mistake in his opinion to look upon operation as a last resort. Gumma of the cord was quite rare, and even in these cases very little had been accomplished by the administration of the iodides; hence, such treatment might very well be neglected. In one of his cases in which the operation had been done quite early the man had been restored promptly to health. In another case he had not been allowed to operate early, and the recovery had been far from satisfactory. It seemed to him that a little too much importance was attached to the mere matter of localization; the important question was in regard to the nature of the morbid process and whether or not a tumor is present. In Pott's disease the sensory disturbances were sometimes as marked as where there was a tumor of the cord. Pain was the important symptom, but this was applicable more particularly to dorsal rather than to ventral tumors. He was not prepared to speak regarding the relative frequency of these two forms of tumor. He was of the opinion that a very extensive laminectomy could be done without causing notable disability or deformity. Early operation, he felt sure, would make spinal surgery much more satisfactory than brain surgery.

Dr. Theodore Janeway said that he regretted very much that in his case the diagnosis of spinal tumor had not been made sooner. There had been pain a year previously, but the pain had disappeared for a considerable time, and when he had first seen her she had been so extremely nervous that the question of hysteria had been seriously considered at first. The case had progressed very rapidly during the part of the summer in which he had not seen her.

Tuberculous Meningitis at the Babies' Hospital.—Dr. C. A. Herter read a paper with this title. There were 24 cases of tuberculous meningitis, and in 15 of these there were autopsies. In these 15 cases, 6 were at the age of eight months; 7 were one year old or under. In 9 cases of tuberculous meningitis without autopsy 6 were five months old. These figures showed that tuberculous meningitis was not so rare in the first year of life as had been supposed by some writers. Nineteen of the cases had run their course in less than one month. The fontanelle had been markedly distended in 7 of the 24 cases, and in 3 there had been a marked excess of fluid found at autopsy. In one case the fontanelle had been depressed—the patient had been sick for four or five months. In six cases there had been a delay in the closure of the fontanelle. Vomiting had been noted in 19 of the 24 cases, and had been the first symptom in 14 cases. In five in which there was vomiting the autopsy showed nothing different from the cases that had presented vomiting. In 11 cases

there had been marked constipation. In cases coming to autopsy there had also been tuberculous lesions in the intestine. In several of the cases there were tuberculous ulcers of the colon and yet constipation instead of diarrhea had been present. The pupils were unequal in 12 of the 24 cases, and dilated in the others. The pupils were contracted in only two cases. Nystagmus was observed in 4 cases, and strabismus in 10 cases. In the cases showing strabismus there were marked lesions at the base and in the interpeduncular space. There were general convulsions in 50 per cent. There was no case which did not present either rigidity or convulsions. In cases without meningitis, but with tubercles in the brain, convulsions were not so common. Paralysis was noted in 10 of the cases of tuberculous meningitis, and was monoplegic in a number. The variability of these palsies was a rather notable feature. In the cases without meningitis, but with tubercles in the brain, no palsies or paralyses were noted. The *tache cérébrale* was noted in 7 cases, and flushing of the face in 10 cases. All the cases of tuberculous meningitis with autopsy had presented stupor or coma, or more or less irregularity of respiration, while these had not been observed in any of the cases with tubercles, but without meningitis. Hyperesthesia had been noted in only one case, and in only one had there been a well-developed cephalic cry. Retraction of the abdomen had been noted to a greater or less degree in 15 of the cases of tuberculous meningitis, but not at all in the other cases. The fever had not been high in the uncomplicated cases, and the pulse had shown nothing distinctive. In the cases without meningitis marked opisthotonus and convulsions had been the rule, and early vomiting had been much less frequent than where meningitis was present. Only two or three of the cases had presented solitary tubercles. In all of the autopsy cases the cerebral tuberculosis had been clearly secondary. The intestine was the seat of tuberculous lesions in 11 of the 12 cases in which the intestine was examined. The knee-jerks were increased in a large proportion of cases, and absent in only two. An interesting feature was that at times the knee-jerks would be alternately exaggerated and absent.

Dr. Leszynsky said that he had made some observations in children under three years with regard to the knee-jerk, and had noted that in the early stages the knee-jerks had seemed to be absent, but as soon as the pressure symptoms appeared the knee-jerks became exaggerated and remained so until death.

Dr. Sachs said that the diagnosis of tuberculous meningitis was usually delayed by the general practitioner because he overlooked, as a rule, the cranial nerve symptoms so commonly found quite early in these cases, and waited for some of the more common and typical symptoms. He would like to know whether examina-

tion of the fundus and lumbar puncture had been of any diagnostic aid.

Dr. Herter replied that lumbar puncture had been practised in a few instances, and in two or three tubercle bacilli had been found. The examination of the fundus had been undertaken in so few cases that no deductions could be made. None of the cases diagnosed as tuberculous meningitis had recovered.

Dr. Sachs said that in a series of cases of sporadic meningitis lumbar puncture had been made, and the diplococcus had been found in almost every instance. He had been surprised also at the large number of recoveries in these cases of sporadic meningitis in which the diplococcus had been found. Their clinical course had been greatly at variance with the older descriptions of cerebrospinal meningitis. The onset had been very violent, the fever lasting often a week or more, and then ultimate recovery was rapid.

Dr. Herter said that in the cases he had seen there had been a much more violent onset than in tuberculous meningitis.

BOOKS RECEIVED.

The MEDICAL NEWS acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the MEDICAL NEWS will shortly appear.

MEDICAL-SURGICAL ASPECTS OF THE SPANISH-AMERICAN WAR. By Dr. Nicholas Senn. 8vo, 380 pages. Illustrated. American Medical Association Press, Chicago.

THE USE OF THE RÖNTGEN RAY BY THE MEDICAL DEPARTMENT OF THE UNITED STATES ARMY IN THE WAR WITH SPAIN (1898). By Dr. W. C. Borden. Quarto, 98 pages. Illustrated. Washington Government Printing Office.

URINARY DIAGNOSIS AND TREATMENT. By Dr. John W. Wainright. Demi 8vo, 134 pages. Illustrated. G. P. Engelhard & Company, Chicago.

DISEASES OF THE HEART: THEIR DIAGNOSIS AND TREATMENT. By Dr. Albert Abrams. Demi 8vo, 170 pages. G. P. Engelhard & Company, Chicago.

TRANSACTIONS OF THE AMERICAN ORTHOPEDIC ASSOCIATION. Fourteenth Session. Vol. XIII. Philadelphia, 1900.

ENCYCLOPEDIA MEDICA. Editor CHALMERS WATSON, M.D., M.R.C.P.E. Vol. V., Herpes to Jaws; Vol. VI., Joints to Liver. 8vo. Longmans, Green, & Co., New York.

PHYSICAL DIAGNOSIS IN OBSTETRICS. By Dr. Edward A. Ayers. 8vo, 283 pages. Illustrated. E. B. Treat & Co., New York. \$2.00.

OPHTHALMIC LENSES. Dioptric Formulae for Combined Cylindrical Lenses, etc. By Charles F. Prentice, M.E. 8vo, 192 pages. Illustrated. The Keystone. Philadelphia.

PHYSIOLOGICAL OPTICS. Dioptrics of the Eye, Functions of the Retina, Ocular Movements and Binocular Vision. By Dr. M. Tscherning. Translated by Dr. Carl Weiland. 8vo, 353 pages. Illustrated. The Keystone, Philadelphia.

A TEXT-BOOK ON PRACTICAL OBSTETRICS. By Drs. E. H. Grandin and George W. Jarman. Third Edition. 8vo, 511 pages. Illustrated. F. A. Davis Company, Philadelphia. \$4.00.